

The National Locksmith®

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OUR HOT NEW
INSTA-CODE SOFTWARE
SEE PAGE 71

July 1998
Volume 69, No. 7

The National Locksmith
READER'S
CHOICE

AWARDS
1998

&

*Punch Machine
Reviews*



NEW Monthly Feature:
FREE Code Cards!
See Inside!

On The Cover...



Code cutters come in all shapes and sizes, electric to mechanical. Some of the most popular are the portable hand held cutters by A-1 and Curtis, as well as The Punch Machine by HPC.

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COMMENTARY



<http://www.TheNationalLocksmith.com>
User name: national User ID: G5fh84

One locksmith's nightmare: A True Story

I want to tell you a true story that happened to a locksmith recently in the state of Florida. The 'smith, M r. X, received a call on a Sunday from another local locksmith. The second locksmith asked M r. X to take a lockout call for him because he was too busy to handle it himself.

M r. X met the customer at a gas station. The customer was carrying a laundry type duffel bag, and said that he had just moved in with two female roommates two weeks earlier. The man, who was well spoken and clean cut, further said that he was downstairs doing his laundry when his roommates left the apartment, and locked it, not realizing that he didn't have his key with him.

The locksmith drove the customer to the apartment. Walking through the first floor, a resident walked out of her apartment and greeted the customer. Before proceeding to the apartment, the customer, opened the laundry room and checked his wash in a machine.

Both the locksmith and the customer then walked up to the apartment, and then M r. X picked the door open. Immediately after the lock picked open, the neighbor next door walked out of her apartment. M r. X asked her if the customer lived there. The neighbor said no, but the customer had explained that he had just moved in two weeks earlier. The neighbor did confirm that two female roommates lived in the apartment, however. And that they had left the apartment about an hour earlier.

Then the customer asked M r. X if he would like to see ID. The locksmith, realizing that the ID would not match the address due to the move, declined the offer, thinking of... the neighbor who confirmed the fact that two female roommates shared the apartment...the fact that the neighbor said the roommates left at about the same time as the customer had mentioned...the other neighbor downstairs who had greeted the customer...and the fact that the customer, carrying a laundry bag, knew the laundry room and checked his wash. All these facts appeared reasonable to the locksmith.

Wouldn't you have opened the door and admitted the customer to the apartment just as M r. X did?

The rest of the story turns into a nightmare, however. Later the local Police Department contacted the referring locksmith, who in turn contacted M r. X. Apparently, the

"customer" was well known to the police as a con artist and serious criminal despite his educated appearance and manners.

After he got into the apartment, the two female roommates walked in on him—moreover, they were friends of his. He then jumped out the window, apparently having taken some items with him.

One of those stolen items turned out to be a key belonging to yet another friend, of both his and the roommates. The "customer" then used this key to go into the friend's apartment at night and stab him, wounding, but not killing him.

M r. X has cooperated fully with the police. They have told him that he was conned and that he could not have prevented the con and did nothing wrong.

The female roommates, however, are threatening a lawsuit for illegal entry, loss of property, etc. It is unknown if the wounded man will also sue.

I know this sounds like a crazy story, but I assure you that it is true. Ironically the locksmith's business insurance policy had lapsed at the time of this incident, and though it has since been reinstated, it is highly doubtful he will be covered for any legal defense or possible liability.

I think this locksmith used reasonable caution in opening the door, but I am also sure he shares with me the following advice to you: Make sure your insurance is in place at all times!

Marc Goldberg

Marc Goldberg
Publisher



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July 1998 • 5

Mango's Message

Oh Brother!

I am often amazed at how some companies can manage to stay in business. The lack of customer service, or even a hint of concern for the customer after the sale, can be astounding. I can't tell you how many times I have called a company for one reason or the other only to get either a rude receptionist, an uncaring employee, or worse yet, an unconcerned owner. Despite that fact, these same companies continue to do business year after year. This puzzles me. How do companies that repeatedly abuse their customers, manage to continue to do business?

I can understand how a company may be unsympathetic to a customer's complaints or concerns if that company is the only available source for a particular product or service. It's the old supply and demand theory. If they have what you want and you can't get it anywhere else, guess what? They win. Today, however, that is seldom the case. It is rare when you cannot find another service or supply source. That being the case, why would people continue to do business with a company that is only concerned with the sale, and not the service and support?

Far too often we frequent businesses that in some fashion have done us wrong. Should this happen to you, some form of action against the company should be taken. There are several reasons for this. One is, it will make you feel better. It may not solve your problem, but it will release pent up tension and frustration.

Second, there may be a breach in the company framework that has gone unnoticed. For example: there may be an employee not performing to the best of their ability causing you to have ill feelings for the company as a whole. There are times when the performance of an employee — or lack thereof — can tarnish the reputation of the entire company and needs to be brought to the attention of management. If no measures are taken to rectify the situation, this would indicate that a poor attitude permeates throughout the company and you would be better served to take your business elsewhere.

Then there are companies or service providers that



simply do a lousy job. They don't stand behind their product or services, don't wish to address your concerns, are not interested in maintaining you as a customer, and deserve the Wrath of Kahn. These are the companies begging for a nuclear attack and the more ammunition you can muster up, the better.

I'm not advocating that you go postal and inflict bodily harm or anything remotely similar. However, there are times when you have to get that look in your eye before someone will take you seriously and address your concerns. Creating a scene in public is a wonderful way to get attention. It's the old squeaky wheel gets the grease procedure. If that's not possible, write letters to the local newspaper, magazines, television stations, or any avenue that has a public voice. If you can grab the attention of a reporter, editor, publisher or producer, your story can go a long way. In the end it may not directly help you settle

**Continued on
page 8.**

Greg Mango

**Greg Mango
Editor**



Mango's Message

Continued from page 6

a dispute, but it may help others avoid a similar situation. That in itself can be gratifying.

Recently, *The National Locksmith* purchased a new fax machine to replace one that was dying a slow, painful death. Not the machine, but the entire staff that had to use it. The paper feed did not work on the existing machine so whenever more than one fax page was sent, we had to stand and manually feed each page. I know, you're thinking "Poor baby, how tough could it be? Be glad you have a fax machine!" and your correct. We are a spoiled lot, but when time is of the essence, as it seems to be for everyone, my time is better served daydreaming, I mean diligently pursuing editorial excellence (you didn't have to agree) than standing at a fax machine manually feeding page after painstaking page.

Then the new Brother IntelliFax-635 arrived featuring an anti-curl system; automatic paper cutter; automatic 15 page document feeder; large 164 ft. paper roll capacity; 64 shade gray scale; 50 station memories for auto dialing and scanner capabilities, we were only too eager to get out the old and put in the new.

It was wonderful. Now when multiple pages needed to be faxed, we just inserted them into the paper feeder, pressed a button and went about our business. The machine did the rest.

Well, the good times lasted about six months and the machine quit printing. We contacted Brother, the "We're at your side" company, and conveyed our circumstance. The man we spoke to went through a series of trouble-shooting procedures to determine the problem. The conclusion was that he thought the machine needed a new printing head and we needed to contact a service center. That was all fine and dandy until we learned that the machine was out of warranty.

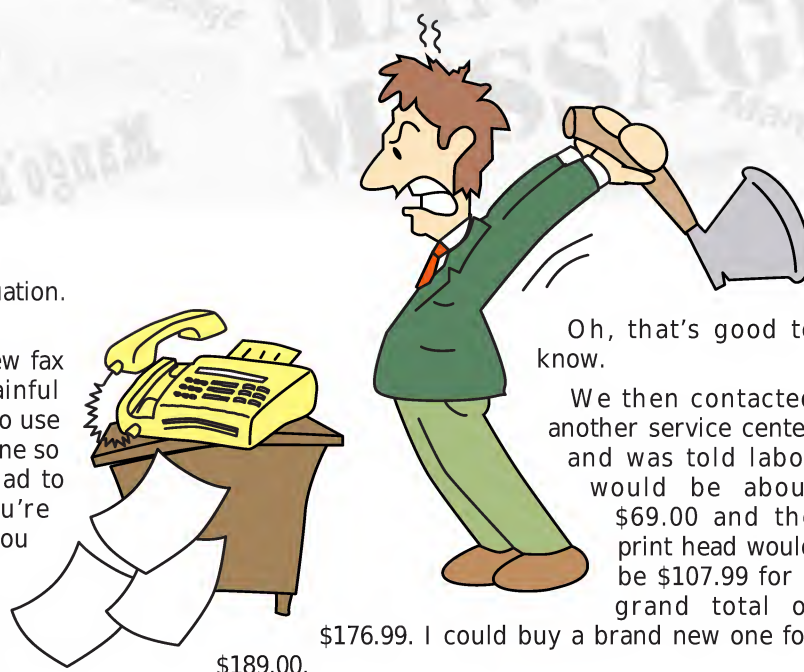
"Out of warranty?" we said, "We only had the machine a few months."

"Sorry, there is only a three month warrantee on the product" we were told.

Who's side is Brother on now?

Three months. What kind of a warranty is that? They may as well have a starburst on the box saying "Purchase at your own risk."

We contacted the service center to learn that it would cost \$50-90 for labor plus parts. When asked how much the parts would be, we were told if it's the print head needing replacement, it would not be worth fixing.



Well, this is great. I have a fax machine that's six months old and all it's good for is the garbage can, which is where it initially ended up. Before I knew it, Marc grabbed the machine from its pedestal, walked out to the back and threw it into the dumpster. Now I was even more upset because I wanted to send the machine back to the company with a cordial little Dear Brother, letter.

As I stewed over night on the topic, I decided that I was not going to be denied some personal gratification. A three month warranty on a new product is an insult and if this company was not going to support its own product or have a concern for me as a customer, then I was going to at least vent some steam and let my feelings be known... to the whole world.

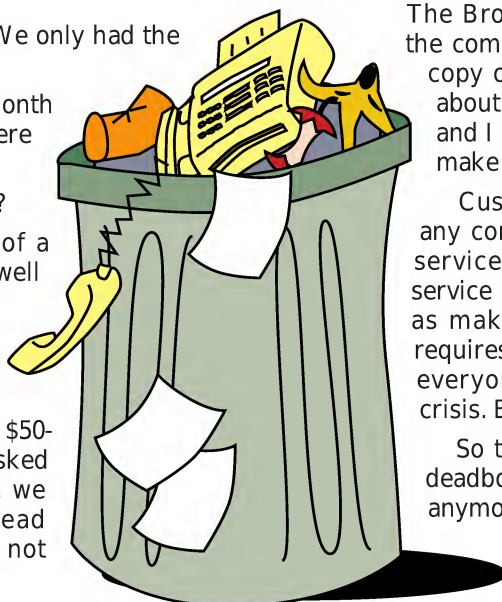
The next day I climbed into the dumpster to retrieve the fax machine and box. I will admit that in the heat of the moment I did entertain the thought of taking a sledge hammer to the unit and then sending it back to Brother, however, my better judgement prevailed and decided that my letter would be scathing enough.

The Brother IntelliFax-635 has since been sent back to the company along with a letter of dissatisfaction and a copy of this editorial. I don't expect Brother to care about my concerns, but you know what, I feel better, and I can assure you that a Brother product will never make its way into this company again.

Customer service is a very important component in any company. Having key personnel in the customer service department is essential. A strong customer service policy can carry a company a long way, as well as make the adventure as painless as possible. It requires compassion, concern and empathy. Virtues not everyone possesses, but ones that are needed in a crisis. Even if it's not your crisis.

So the next time someone calls you to say that the deadbolt you installed six months ago is not working anymore, remember how you would feel if it was you making the call and the voice on the other end replied, "Sorry, it's your problem now!"

TNL



J u l y 1 9 9 8

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

The National Locksmith Announces: Two Free Code Cards in Every Issue!

We're happy to announce a new and valuable free service to subscribers of *The National Locksmith*. As you know, in each issue we print a new or interesting code series. The good news is that starting with this issue, we're also printing a usable 1200CMB™ Code Card for every code series we publish.

That means as new series are published, subscribers to *The National Locksmith* will be the very first to also have a working code card, so you'll be immediately able to cut the keys by code!

As a special free bonus, we'll also be printing a *second* free card each month. Every year, simply by being a subscriber, you'll be getting 24 free, useful code cards for your 1200CMB™.

In this month's issue, you'll find the code cards inserted between pages 110 and 111. All codes and code cards we publish are printed using our INSTA CODE software program. INSTA CODE is our Total Code Solution, and it can be *yours* too.



Sting Like a Bee

Here we go again. "Stay tuned to Channel 4 at noon, and learn how a locksmith can let a burglar into your house."

Think about these sting operations and don't get mad. Instead realize what a wonderful opportunity is being created.

1. There are people out there that don't know locksmiths open houses and cars. Now they do.

2. Thanks to TV stings we are getting free advertising.

3. Negative advertising? Not really. Like the saying goes, negative press is better than no press.

Remember, without crime there would be no need for laws, locksmiths, police, etc. Go crime go.

Brad
Ohio

What a Prize

Thank you, thank you, thank you. I have just received my Falle pick set from Mark Bates Associates (MBA) and they were well worth the wait. What a beautifully made set of tools. These are almost too nice to use. I will though, and I will think of you and Mark every time I do. Thanks again.

James Lee Roy
Louisiana

Keep it Light

Greetings to my friends at *The National Locksmith* magazine! I just wanted to tell you how much I enjoy your magazine, especially "The Lighter Side" articles by Sara Probasco. I supervise five locksmiths, two electronic technicians, and a secretary at a large Medical University in New Jersey. I could write a book on all the craziness that happens here each day, so relating to your stories is not a problem here.

Just dealing with all the different personalities of my crew is a tough enough task, so I try to make our eight hours as much fun as I can. Practical jokes are the norm around here, and basically we're all very good sports. They can get out of hand, but hey, being the boss means being the referee too!

Thanks for the humor Sara, keep up the good work.

Tom Karausky
New Jersey

Continued on page 12

The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Attn: Editor

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In Public View

Please consider the following quotes.

"When picking a lock in the wrong direction (intentional or by error), a plug spinner will flip the cylinder plug past the upper pins and save you the job of repicking."

"Locks such as T-handles, padlocks, and most inner cylinder applications are defeated quickly and easily by pulling the entire cylinder past the retaining pin.

Should these comments really appear in a document that is available to the general public?

I presume you'd say "no."

Then why didn't you suggest to HPC that they modify their "wrapper" ad material (for your April issue) so these items appeared on the inside surfaces? Or at least that they reduce the detail of the description to an appropriate level.

Remember, the wrapper may be seen by the mail carriers and by anyone who's nosy enough to take a peek into our mailboxes before we pick up the day's deliveries. I grant that the odds of a postal worker being bad is low, despite the jokes about postal workers, but I'm a firm believer in not unnecessarily tempting folks.

I don't mind the wrap-around ads. But I do feel that it's your responsibility as the publisher to make sure they are edited more tightly than the material that appears within the magazines covers.

*Joe Kesselman
New York*

Publishers Note: We do take every step reasonably possible to secure the magazine. Each issue is wrapped in tamper-evident plastic. HPC's address (nor any distributor's) appear visible in the wrap. I think we can say no harm was possibly done here. Marc Goldberg

Grand Prize

To the whole staff of *The National Locksmith*. I would like to thank you for choosing my tip on generating Mercedes Benz keys, as your grand prize winner in the Technitips contest. I know that the locksmiths who work on those cars will find it to be a very useful tip.

The Silca Bravo key machine that I

won will definitely be an additional help in my daily locksmith business. I do appreciate the prize.

I also encourage all locksmiths to at least share their ideas with each other. We may not all agree on being in associations, doing roadside service, and competitive pricing. We all have a different say one way or another. But, if we are friendly to each other and lend a helping hand or give out information, it will only benefit the whole locksmith industry. Stop in and say "hi" to your competitors. You don't have to talk shop, just be friendly.

The next few years will be a very rough road for all locksmiths, especially the automotive locksmith. There are a lot of changes taking place, and the more locksmiths work together, the better it will be.

Tom Tusing

Politician in the Making

I just read Kathy Zaniolo's response to Marvin Golden's questions concerning the licensing law in Illinois, and now I'm doing a slow burn. She should be a politician, because she sure spewed a lot of baloney.

Here is reality. I have been fighting for months to get the Sheriff and his deputies to stop opening vehicles here in Logan County, located in central Illinois, to no avail. I've written to the complaint department of the Illinois Dept. of Professional Regulation, to the Greater Chicago Locksmith Association (the folks who shoved this bill down our throats) and to Kathy Zaniolo herself. It has not done a darn bit of good. Has anyone responded to my complaints? Not at all. Has anyone contacted the Sheriff and told him to stop? Not to my knowledge. If they did, it did not do any good. Instead of calling them "lockouts" on the radio, they are now calling them "signal 50's" as if they did not want somebody to know what they're doing.

I even wrote to the Attorney General's Office for an interpretation of the law because the State's Attorney here told me the law was vague on the definition of what an emergency was. Their response was that they could only respond to inquiries from State's Attorneys or State Agency Department Heads, not us taxpayers.

Mr. Golden, in answer to your question, NO, the police do not have to stop, unless they are in Cook County, which is in Kathy Zaniolo's neck of the woods. Anywhere else they can thumb their nose at it, as the Sheriff in Logan County is doing. Nobody is going to do a thing about it, including Kathy Zaniolo.

Chances are that this letter won't even get published, but being the fighter I am, I'll take your word Mr. Mango that you are neutral on the subject. That is more than the editor of another Chicago area lock magazine can say.

As for your remarks regarding "wannabe locksmiths" Mrs. Zaniolo, your arrogance as well as the fact the Sheriff here is doing as he pleases, speaks for itself.

*Tom Bates
Illinois*

Zaniolo's Response:

I'm tired of fighting with locksmiths who expect everything to be perfect immediately. Enforcement began on the first complaint one month ago and it will take time to make it work.

I will continue to do my best and if that's not good enough at least I tried.

*Kathy Zaniolo
Illinois*

No Longer Willing

I receive many calls for service from AAA members, roadside, and others. I am no longer interested in being bound to a contract that requires me to provide 24 hour, 7 day coverage for half or less my normal rates. If the towing services want to send trucks and drivers out on calls for less than the cost of doing business, then let them. I am not willing to. While I'm out providing service at discount rates to emergency customers, I'm not available for my regular customers at the normal rate.

Don't misunderstand me, I am not attacking the towing services. The same rules of business apply to them. You can't provide services for less than the cost of doing business for long, without going out of business.

Locksmiths fear not; reliable service at reasonable rates will prevail.

*Art Shellabarger
Ohio*

TNL



Once again it is time to present the products you feel are the best in their class. This is the fourth year *The National Locksmith* has presented the **Reader's Choice Awards**. Over the past few years the **Reader's Choice Awards** have become a very well received annual event.

The company names presented here are a reflection of *your* vote for the best in each category. There are a total of 27 products that you felt deserved recognition for outstanding quality, service and design.

Each company is shown here along with a product from their line. Shown are products that the Award Winners feel are representative of their quality in the category for which they were selected.

The National Locksmith extends its congratulations to all who have been granted a **Reader's Choice Award**.



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Automotive Locks

BWD Lockcraft Ford 8-Cut Locks & Components

BWD's Lockcraft brand Ford 8-cut Service Kits, locks and keys put the locksmith back in control.

Lockcraft brand products fit the widest range of 1996+ Ford vehicles in the field, including Huf equipped and transponder vehicles, a claim that no other manufacturer can make.

BWD's Locksmith brand Ford 8-cut parts simplify the locksmith's work, widens his range of service, reduces his inventory, and increases his profit.



Strattec Ford Capping Tool

Designed specifically for Ford 8-cut locks, this capping tool does the job quickly and easily. It's safer and faster than using a screwdriver, and it offers the secure, custom fit available only from the original equipment manufacturer.

Schlage Heavyweight Grade 1 Commercial Deadbolt

Schlage's B 660 deadbolt, shown with a bright brass finish, is part of a new line of tough, heavyweight Grade 1 deadbolt locks for extra heavy-duty commercial, institutional and industrial applications. The B 660 features solid brass trim rings, 1/4" through-bolts and a high-strength, solid steel alloy bolt with anti-saw pins.



Door Closers

LCN Commercial Closers

LCN has introduced a line of door closers designed and priced for commercial applications. The 1520, 1070, and 320 series are all non-handed for right and left handed swinging doors. The 1520 and 1070 series have adjustable closing power from size 1 through size 4, mount on the pull side, push side and parallel arm and have tested to over 2 million cycles. All three series are ideal for locksmiths and glass contractors involved in retail, multiple housing, hotels/ motels and other installations where architectural grade closers are not called for.



Norton 1600 Series Door Closer

Norton's 1600 Series Door Closer is the benchmark for quality, efficiency and value in today's door closer market.

This heavy duty industrial closer features a variety of accessories which make it easy to choose a reliable solution for any environment. The 1601BF is designed specifically to comply to ADA requirements while the Norton's UNITROL® spring stop arm protects doors in abusive conditions.

Door & Lock Reinforcers

Don-Jo Classic Wrap Series

The Classic Wrap Series of Door Reinforcers from Don-Jo Mfg. is designed to strengthen, reinforce or repair doors. These plates save costly door replacement, help resist kick in attacks and help keep wood doors from splitting. They feature stainless steel threaded inserts that are designed to keep the latch screws from loosening even on doors that are severely damaged. They are available in a variety of sizes and finishes to work in almost any situation.



M.A.G. Install-A-Lock

The M.A.G. 4-S "Install-A-Lock®" Door Reinforcer repairs damaged doors and saves costly door replacement. The 4-S has a standard US32D finish and is designed to cover split, scratched and misdrilled wood or metal doors. Used with standard locks, the 4-S fits 1-3/4" thick doors with a 2-3/4" backset and a 2-1/8" bore. Encasing the door, lock, and latch into one solid unit, the 4-S more than doubles door strength and helps prevent kick-ins.



Electric Strikes

Adams Rite Electric Strikes

Adams Rite Manufacturing Co.'s line of electric strikes includes two strikes with features that combine innovative designs with a fire rating. With the 7240 and 7270, their standard one ton jaw strength, one million cycle-tested solenoid and choice of popular voltages can be appreciated in applications requiring a 3 hour fire rating. The 7240 strike is for key-in-knob latches while the 7270 is for mortise latches. Both strikes are fire-rated in fail-secure mode for hollow steel jambs and are UL listed for burglary resistance. Faceplates for both measure 1-1/4" x 4-7/8".



Folger Adam 300 Strike

The 300 Series Electric Strike remains one of the most versatile security products. It is available in a wide range of models and options, including a choice of indication switches. Its internally mounted solenoid and stainless steel construction provide durability and corrosion resistance. All 300 Series electric strikes conform to ANSI/BHMA requirements for Grade 1 and are UL listed for burglary protection and fire-door assemblies.



H.E.S. 5000 Series

The 5000 series is a revolutionary new concept in electric strikes, designed with only a 1-1/16" backset for low-profile installations, but with the strength of a high security product (2,285 lbs. holding force). This product comes with the installer-friendly features you've come to expect from H.E.S., 6 interchangeable faceplates, field changeable fail secure or fail-safe function, and the capability to run on AC or DC current.



Continued from page 16

Electromagnetic Locks

Securiton Magnalock® Products



Securiton brings you "State of the Art Smart®" solutions with its line of electromagnetic locks.

The Magnalock® line includes the Model 32 with 600 lbs. of traffic control holding force, the Model 62 with 1200 lbs. of security holding force, the Model 82, with 1800 lbs. of high security holding force and the new SAM - Shear Aligning Magnalock for concealed mounting. All Magnalocks operate on 3 to 4 watts of power and come with a five year warranty.



Exit/Panic Devices



Von Duprin Exit Devices Lead The Field

Von Duprin pioneered the touchbar exit device with its 98/ 99 Series. These easy-to-install, trouble-free devices are available in rim, mortise lock, surface and concealed vertical rod mountings, in UL Panic Hardware and Fire Exit Hardware labels. Many options and accessories include: electric latch retraction (EL), locking/unlocking, request-to-exit, latchbolt monitor, signal switch (SS), and alarm kit (ALK).

High Security Cylinders

ASSA V-10

The ASSA V-10 cylinder incorporates all the features and benefits of the legendary Twin/ 6000 line, along with a new 17 year utility patent on the key blank. The V-10 cylinder uses the same pin kit, needs no special key machine and is offered for the same price as the Twin/ 6000. Mortise, rim, key-in-knob/ lever, mogul and interchangeable core cylinders, as well as a complete line of tubular deadbolts and padlocks are also available.



Medeco High Security Cylinders

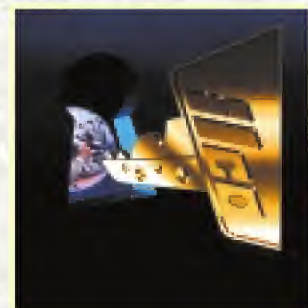
Medeco High Security Cylinders offer a unique combination of patented key control, a patented double locking sidebar assembly, strategically placed inserts to resist drilling, and are constructed in the USA of the highest quality materials. Medeco High Security Cylinders are ideal for use in commercial, residential and industrial applications.

Keyblanks

Ilco Original Keyblanks



Now available from Ilco Unican, three different original lines of keyblanks. A blend of high tech methods, strict quality standards and over 80 years of experience has led to licensed arrangements with Ford, GM, and Chrysler. Each original blank is engineered and manufactured to meet or exceed standards set by the automotive industry. All lines have both metal and plastic head keys available.



Continued from page 18

Keyblanks (Continued)



Jet Supplies Chrysler Keys

Chrysler Corporation has issued its first after market key blank license to Jet Hardware to manufacture original Chrysler key blanks. The initial offering consists of brass, coined and embossed with the Chrysler logo and finished on nickel plating. The lineup also includes the plastic head versions of original Chrysler keys. The numbering system will remain the same as Jet's alphanumeric system with the letter "C" added at the end of the number. Plastic head versions have a "PH" after stock number.



Framon #2 Code Machine

Framon's #2 Code Machine has been a locksmith favorite for over 25 years. The #2 includes everything a locksmith needs for almost any code cutting task. The #2 can originate almost any automotive, commercial, high-security, or utility lock key in use today without the need for additional components. Included with the #2 at time of purchase are four cutters, Framon's Depth & Space Manual, steel dial calipers, and a demonstration video.

Key Machines



HPC Punch Machine

The Punch Machine™ is the most complete punch style machine on the market. It is portable and comes with 3 punches and 99 code cards allowing you to punch most popular domestic pin and disc tumbler cylinders and automotive keys quickly and easily. It is extremely easy to change from one manufacturer to another because depth and space adjustments are not required. The Punch Machine™ is the only machine that does it all.



PRO-LOK® Blue Punch

One of your commercial accounts calls, "We need you here at 8:00 a.m. tomorrow to rekey our facility." You pull their file, determine your new key biting array and print out the new system. If you have a Blue Punch, you have the ability to generate "factory original" keys in any quantity, quickly (10 seconds each in the hands of an experienced Blue Punch user).

Padlocks



ABUS IC Core Padlock

ABUS Lock Company introduces the new 831C/45 Interchangeable Core Brass Padlock, which features the exclusive "Z" Bar. The all brass body features stainless steel double locking balls and spring to resist the most severe environmental punishment.

The 831C/45 Interchangeable Core padlock also features an emergency security breach lock out feature, the lockout feature can immediately restore security by security personnel until new IC cores are ready for installation.

Available in 1", 2", 4" and 6" hardened steel shackles, the 831C/45 IC Core Padlock accepts the Best, Arrow, Falcon, KSP, KABA, and Medeco interchangeable cores.

American Lock® Introduces 2 Heavy Duty, Wide Clearance Steel Padlocks

American Lock Company, introduces two new wide - clearance steel padlocks, Models 780 and 790.

Model 780 is precision machined from a 2-1/2 " wide bar of highest quality solid steel, then triple plated for extra rust resistance. It has been proven to exceed the highest industry standards for strength in shackle and cylinder pull tests.

Model 790 is a 3" wide solid steel padlock with a virtually indestructible 1/2" diameter shackle of case hardened, Boron alloy steel. Tested at more than double the industry's highest performance standards for a padlock. With a generous interior shackle clearance of 1-1/2", new Model 790 is designed to secure mismatched and other hard-to-fit doors and gates. Both keys are rekeyable for easy service.



Master Lock Pro Series™

Master Lock offers the Pro Series™ line of rekeyable padlocks with high security and weather resistance. Shackles of extra-tough hardened Boron alloy steel provide up to 15,000 lbs. of resistance to cutting and sawing, more than twice that of standard steel shackles. Solid iron shackle shrouds on high-security padlocks make them virtually impossible to attack with bolt cutters.

Simplex Access Controls Series 1000

This line of push-button locks features a fully mechanical lock designed where keyless access control is required. The mechanical design eliminates the need for batteries or running wire. Trouble free performance and care free durability. Available in knob as well as lever design. The Series LP1000 (Lever/ Panic) is designed for new or existing surface mounted exit/ panic devices.



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Locks*



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Safe Locks

Sargent & Greenleaf Comptronic Electronic Safe Locks

Comptronic Electronic Safe Locks go beyond traditional locks to bring the benefits of current micro-processing technology to safes. They offer motor driven one-step operation, which provides automatic lock bolt retraction and closing.

Flexible interface capability works with security systems. Security features include: dual control, time delay, audit trail and silent alarm duress.



AMSEC Fire Resistant Safes

AMSEC's new Two Hour Premium fire safes are priced comparably with typical One Hour fire safes with features that place them in a class of their own. Each safe carries the UL Class 350°, 2 hour fire/ impact rating and is accented in a durable sandstone or granite textured finish, decorative emblems and an elegant plush velour interior.

Safes



Gardall Burglary Fire Safes

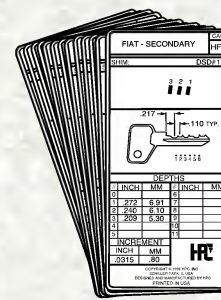
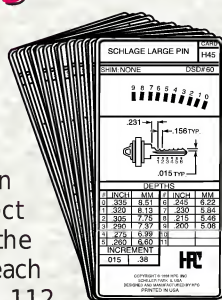
Gardall Safe Corporation is pleased to be honored for the fourth consecutive year as a Reader's Choice Award recipient. Gardall BF safes have been the safe of choice for dealers across the country when burglary and fire protection is required by residential or commercial customers.

They are available in three different sizes with a 1" thick door, 3 chrome plated 1" bolts and a center bolt down hole. Gardall BF models have larger capacity, are heavier in weight than comparable safes and offer a Lifetime Replacement Warranty. Thank you locksmiths for another Reader's Choice Award. We appreciate your continued support.

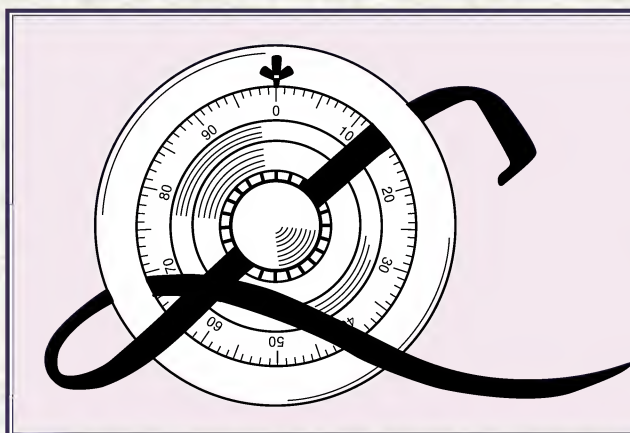
Tools

HPC Pocket Size Decoder

This all inclusive, pocket size decoder kit is all you need to determine the original factory depths of most popular domestic pin and disc tumbler cylinders and automotive keys. It is ideally suited for giving the correct bottom pin size when re-keying new or worn cylinders. Simply insert the correct information card into the top of the decoder and your key into the bottom. Then decode the key by lowering the depth pin into each cut. It's that easy! The HKD-75 comes complete with 112 information cards all in a durable plastic carrying case.



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Block-Out Cylinder

by John L. Baker

This article is about a unique application for Corbin's mortise/rim block-out cylinder. Corbin's block-out cylinder was originally designed to block all other operating keys from entering the cylinder, thus preventing any key from operating it. With a little ingenuity, you can pin this cylinder to operate with two different keys, each operating it at different times. This requires no physical modification to the cylinder other than repinning.

For example, a bus station's cash counting room needs to be locked at all times with only certain employees having access at certain times. The A (day) key is the only key to operate the cylinder during the day shift. At the shift change, the supervisor inserts his conversion keys, turns them, and now the B (evening) key is the only key that works the cylinder, denying anyone from the day shift from entering. If the supervisor wants, he can lock out both the A & B keys at the end of the evening shift (the original design for this cylinder). The next morning he can again change the cylinder to operate on the A key only.

Construction & Operation

Notice that all block-out cylinders are shipped with the Emhart High Security keying system. To make this simpler and less expensive, the high security pins should be removed (save these angled pins for your possible future use as they are expensive) and replaced with standard pins. Although any keying specifications may be used, we will stay with Corbin's System 70 specifications. The cylinder is available in different Corbin Russwin keyways. Note that the key profile in the reprint does not correspond to the bittings used here.

Block-out Function Cylinders

1012 Series block-out mortise cylinders and 3012 Series block-out rim cylinders are available exclusively with the Emhart High Security mechanism.

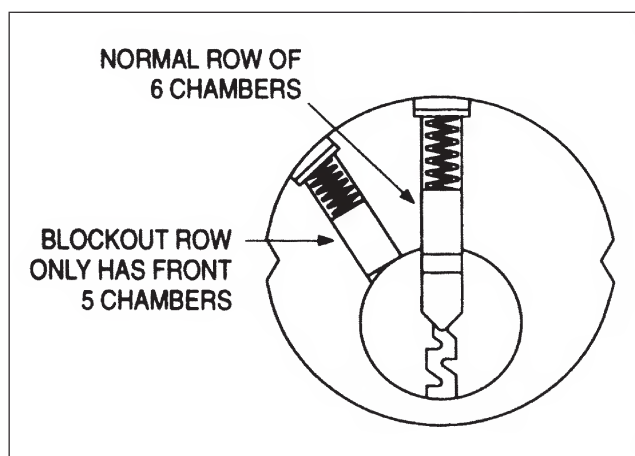
Block-out cylinders have two rows of top pins. The row at 12 o'clock is a complete, normal row in both the plug and shell. The "block-out row" at 11 o'clock in the shell, however, is incomplete (see *illustration 1*). The 6th chamber is missing. Remember that the plug has all six pin chambers loaded.

The front 5 chambers are combined with high security pins, while the block-out chamber is combined with conventional pins.

All keys turn normally. *Illustration 2*, shows a normal operating key turned to the block-out position. With no 6th chamber in the shell, the pins in the 6th chamber of the plug cannot move out of the way to clear the steeple at the end of the key. Therefore, it cannot be removed in this position and the user is not aware of any special feature.

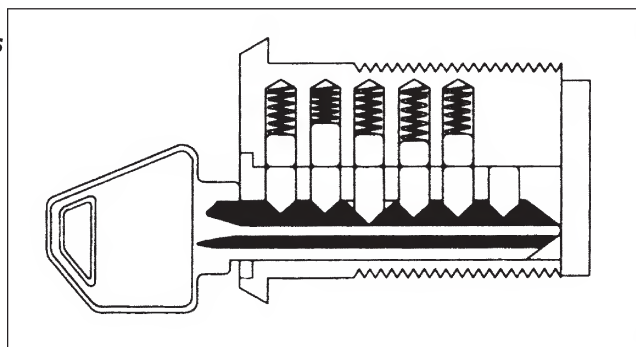
The block-out key has the last steeple removed, so it can be removed

Continued on page 26



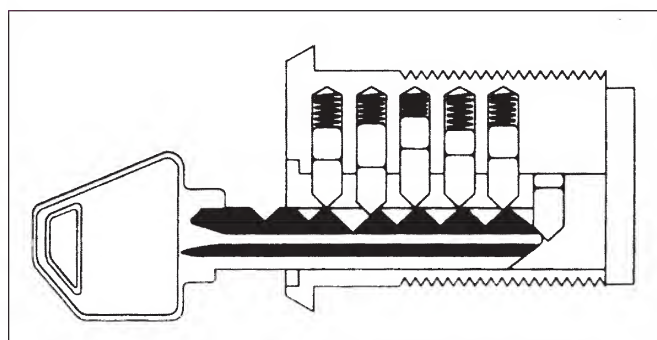
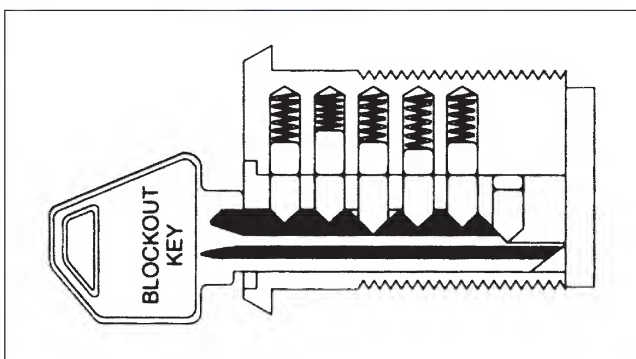
1. The Corbin block-out cylinder has two rows of pins.

2. The sixth chamber in the block-out row is left empty.



Continued from page 24

3. The block-out key has the last steeple removed.



4. In block-out mode, normal operating key is blocked from fully entering the cylinder.

in the block-out position. This leaves the plug turned with a fully loaded chamber in the back (see Illustration 3).

While the cylinder is in the block-out mode, normal operating keys with the last steeple present are blocked by the pins in the 6th chamber of the plug. These pins have no place to move to clear the incoming key. Therefore, the normal keys (master, changes, etc.) are temporarily blocked out.

The block-out key can be inserted again and turned to the 12 o'clock position to release the block-out function and when normal cylinder operation is again desired (see Illustration 4).

Keying System Design

The last chamber may not be used for change key progression. There must be a constant relationship between the operating keys and the block-out key in this position. The block-out key must be two increments deeper than the operating key.

The factory recommends using a 6 or 5 for the block-out key and a 4 or 3 respectively, for the operating keys. This creates a sufficient steeple at the tip of the key.

Technical and Theory

Four keys will be needed to work this cylinder. Two operating keys, A & B, and two conversion keys for changing back and forth between the operating keys. To keep it simple and secure, we will use as few masterpins

as possible. The two operating keys will be identical to each other except in the first two positions. Likewise, the two conversion keys will also differ from each other only in the first two positions.

A Operating Key: 142643

B Operating Key: 422643

A Conversion Key: 142345 with run out

B Conversion Key: 422345 with run out

Both conversion keys will have their last cuts as the #5 depth with run out, just like the block-out key in the previous illustration. In other words, there will be no steeple at the tip of these keys. With this last position run out, these keys may be fully inserted in the cylinder even when the plug is turned to the 11:00 position. The A & B operating keys cannot be fully inserted when the plug is turned to this position (the original block-out position) because of the steeple at the tip of the key.

The first cut in the A operating key, 1, is shallower than the first cut in the B operating key, 4. The second cut in the A operating key, 4, is deeper than the second cut in the B operating key, 2. Each operating key must have one cut shallower and one cut deeper than the each other.

The plug (when in the 12:00 operating position) may have only one masterpin in either the first or second chamber at any time. The other masterpin remains in one of the first two chambers in the shell at the 11:00 position. This is the basis of operation the conversion cylinder.

The third and fifth cuts, 2 and 4 respectively, will be the same for all keys. Elimination masterpins in these chambers increases pick resistance and makes key manipulation less likely.

The last position has a 3 cut in the operating keys and a 5 cut (run out) in the conversion keys. This cut relationship is maintained as per Corbin's recommendation.

The fourth position of the operating keys have a 6 cut while the same position of the conversion keys have a 3 cut. This is very important because if someone files down (runs out) the tip of their operating key to make "their own" conversion key, it may fully enter the cylinder even when the plug is turned to the 11:00 position. But, with their fourth position cut to a #6 depth, it will still not operate the cylinder.

The secret to operation of this function is the conversion keys. They actually move the masterpins in the first two chambers back and forth between the 11:00 and 12:00 shell positions.

The Practical

We will be keying the cylinder with the same bittings we've been using so far. Cut the two operating keys just like any other keys (using Corbin's Stem 70 Specifications) to the following bittings:

A Operating Key: 142643

B Operating Key: 422643

Cut the conversion keys to the following bitting remembering to run out the last cut (#5 depth) all the way to the tip of the key.

Continued on page 28

| *12:00 Chambers | 1 | 2 | 3 | 4 | 5 | 6 |
|-----------------|------|------|------|------|------|------|
| Drivers | .172 | .172 | .172 | .172 | .172 | .172 |
| Masterpins | #3 | - | - | #3 | - | #2 |
| Bottom Pins | #1 | #2 | #2 | #3 | #4 | #3 |

| **11:00 Chambers | 1 | 2 | 3 | 4 | 5 |
|------------------|------|------|------|------|------|
| Drivers | .172 | .172 | .172 | .172 | .172 |
| Masterpins | - | #2 | - | - | - |

Continued from page 26



Installation Tools

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A Conversion Key: 142345

B Conversion Key: 422345

We will be pinning the cylinder through the top of the shell so removal of the cam/tailpiece or the use of a follower is not necessary.

Remove the two pin covers (at the 12:00 & 11:00 positions) and dump all pins and springs. Standard springs may be used in the six chambers at the 12:00 position, but smaller springs (ideally Corbin #172F21-7) should be used in the five chambers at the 11:00 position to prevent spring collapse.

With the plug in the 12:00 position chambers as follows, making sure they drop fully into the plug and locking the plug in the *12:00 position when finished.

Install standard springs and pin cover over these chambers. Don't try any keys at this time. Next load the five shell chambers at the **11:00 position.

Install the smaller springs and pin cover over these chambers.

Final Thoughts

Cylinder operation is very simple. Your cylinder is now set up for the B operating key. Insert the B operating key and operate as normal. You'll notice it cannot be removed in any position except the normal 12:00 position. Now remove your B operating key. Inset the B conversion key, rotate the plug to the 11:00 position and remove the conversion key. Insert the A conversion key, rotate the plug back to the 12:00 position and remove the key. Now the A operating key works. Leaving the plug in the 11:00 position with either the A or B conversion key, it retains Corbin's original function, a block - out cylinder, locking out all operating keys.

With the plug in the 11:00 position, try inserting the A and B operating keys. The steeple on the tip of the key prevents it from going in all the way. Even if you filed down the tip of your operating key down to a #5 depth and ran it out like the conversion key, it will not work. The fourth cut (#6 depth) on your operating key is too deep and is negatively locked by the driver. Remember, the #3 masterpin in the fourth chamber is in the 12:00 shell and will remain there whenever the plug is locked in the 11:00 position. That is why the operating keys #6 depth (in the fourth position) will only operate when the plug is in the 12:00 position. **TL**



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Servicing the 1997 Mitsubishi Galant



by
Michael Hyde

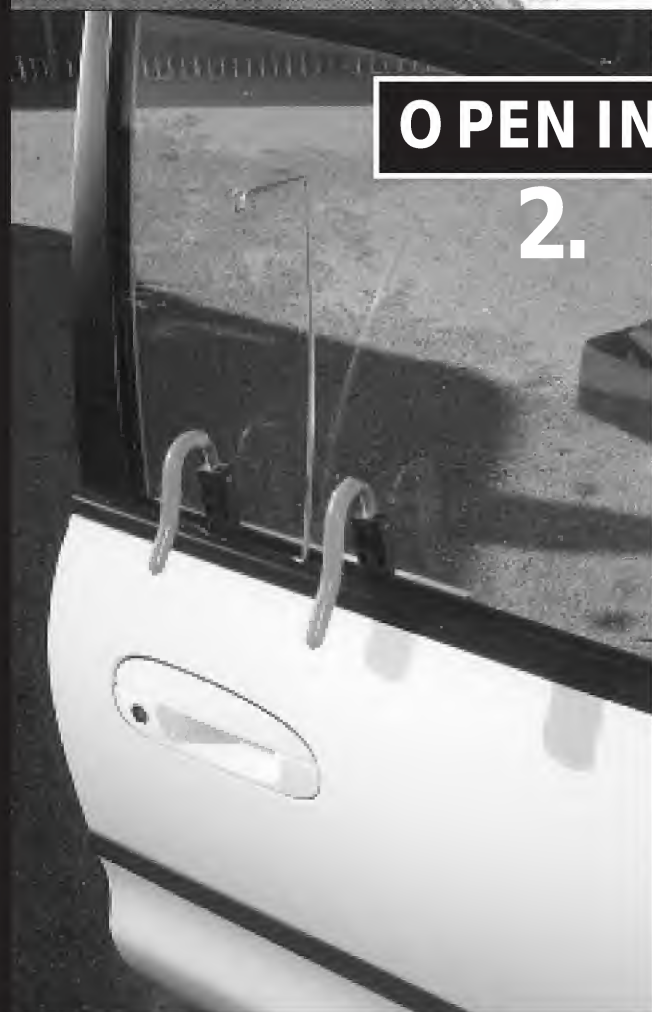


1.

This time out we disassemble the new Mitsubishi Galant. This car is a mid-size import that comes in many different levels of luxury. The key is of the double-sided type, with eight spaces and four depths. The code series is E5001-7679.

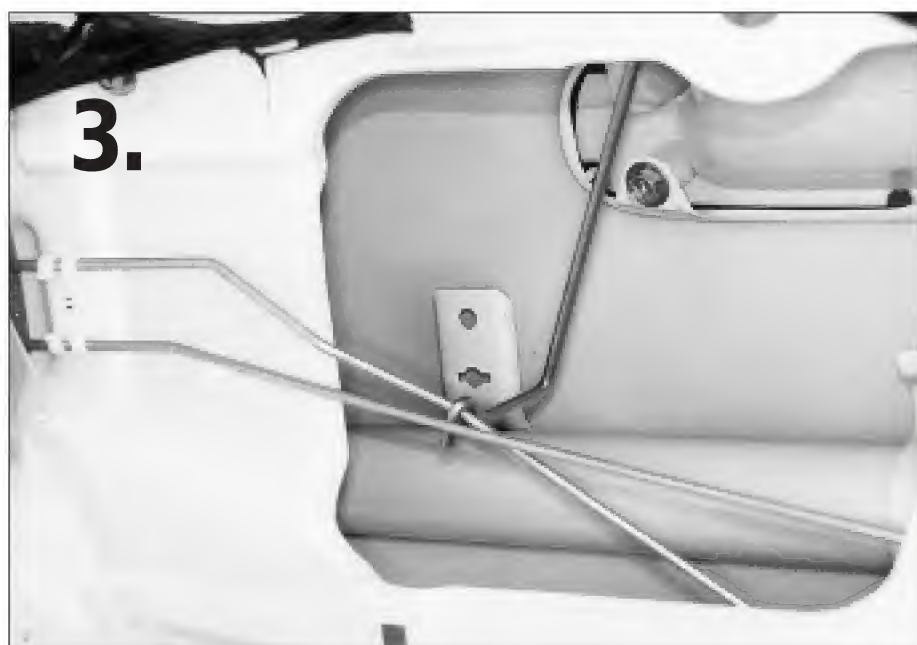
OPENING

2.



Opening the Galant is simple, because all the linkage is exposed. Use a horizontal slide linkage tool and a couple of good wedges.

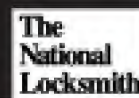
3.



Make contact with the linkage rod shown and bind the rod. Move the rod towards the front of the car to open.



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IGNITION LOCK

4.

To remove the lock cylinder you must remove the two piece plastic shroud. The ignition lock cylinder uses an active retainer.

6.

A view of the ignition lock with the shroud separated.

5.

Remove the four Phillips head screws on the bottom of the shroud. Then you can gently separate the shroud and remove it.

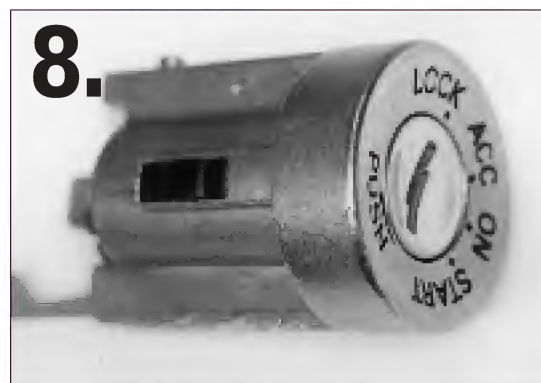
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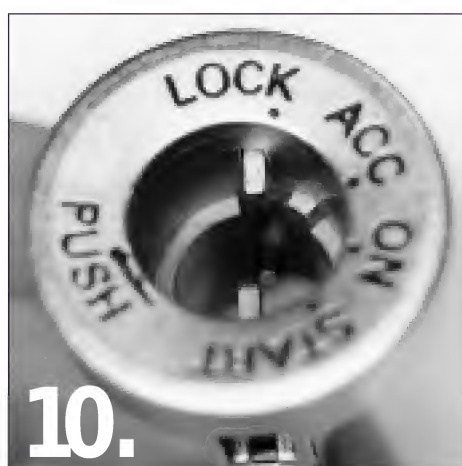
Insert a working key and turn it to the "ACC" position. Depress the active pin and slide out the cylinder.



The ignition lock cylinder is shown removed.



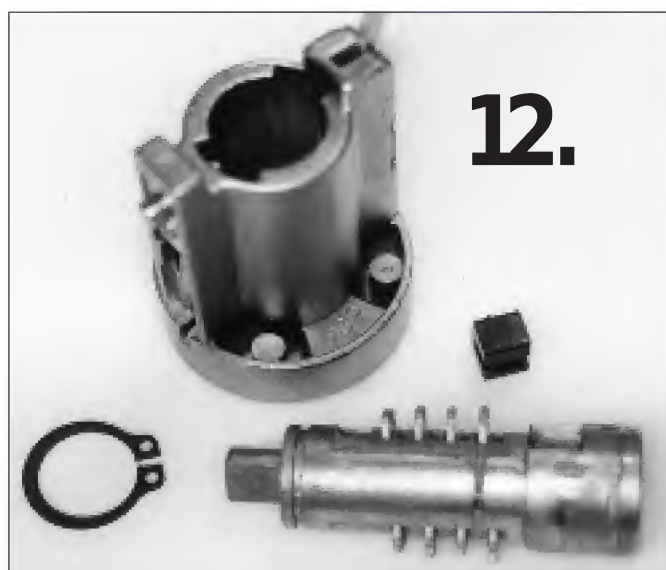
To disassemble the ignition lock cylinder you must first remove the "tru-arc" ring on the rear of the cylinder housing.



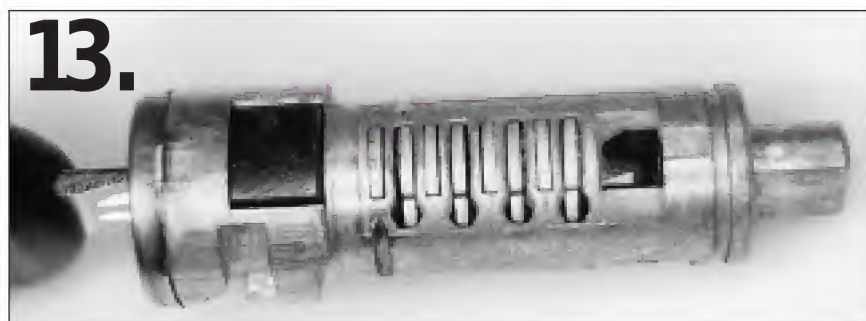
There is a lever in the cylinder housing that blocks the cylinder plug from being forcibly pulled out.



A look at the retaining lever mounted in the upper cavity of the lock housing.

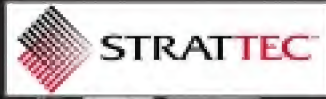


A view of the ignition lock disassembled.



The ignition lock cylinder plug contains all eight master wafer tumblers. Be careful not to lose the black buzzer activator when you disassemble the lock cylinder.

Continued on page 34



Continued from page 32

DOOR LOCK

14.

The door lock cylinder is part of the outside door handle.



15.

To service the door lock cylinder it is necessary to remove the door panel.



16.

The armrest has two screws that are hidden behind the trim caps. Remove the screws.



17.

There are three screws on the rear of the door that have to be removed. There are also two screws on the front section of the panel that need to be removed.



18.

There is a screw that holds on the trim piece behind the inside door release handle.



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19.

A view of the door with panel removed.



20.

As you can see the door lock cylinder is held in by a wire clip and easily accessible.



21.

The door lock cylinder is shown removed.



22.

To disassemble the door cylinder you will first have to remove the "C" clip that holds on the tailpiece.

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23.



The face cap will also have to be removed. The face cap is reusable. There are no replacement caps available.

24.



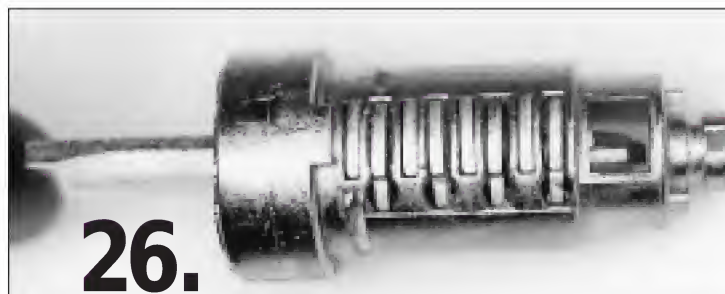
The code is stamped on the passenger door cylinder. The code series runs from E5001-7679.

25.



A view of the door lock cylinder disassembled.

26.



The door lock cylinder plug contains all eight master tumbler wafers.

TRUNK LOCK

27.



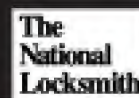
The trunk lock cylinder has a chrome face on the lock cylinder housing. The car is equipped with a trunk release lever located down low by the driver's seat. The release lever is on all Galant models and does not lock.

36 • The National Locksmith

28.



The trunk lock cylinder is held to the trunk lid by metal horseshoe clip.



29.

The trunk lock cylinder removed from the car. Notice the long tailpiece. The very tip of the tailpiece sits in a hole in the trunk lid sub-structure to steady lock housing.



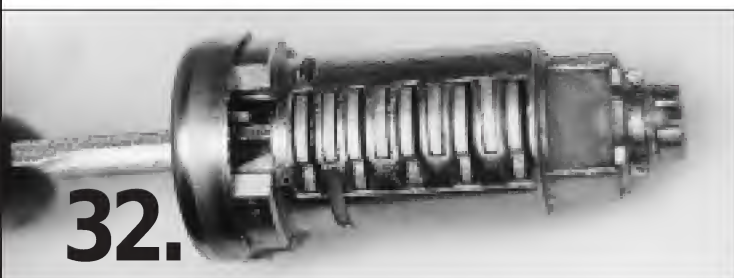
30.

To disassemble the trunk cylinder you will first have to remove the "C" clip that holds on the tailpiece.



31.

A view of the trunk lock cylinder disassembled.



32.

The trunk lock cylinder plug contains all eight master wafers tumblers and one valet wafer tumbler, that the tip of the key operates.



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33. GLOVE BOX LOCK

A view of the glove box lock mounted in the glove box door.



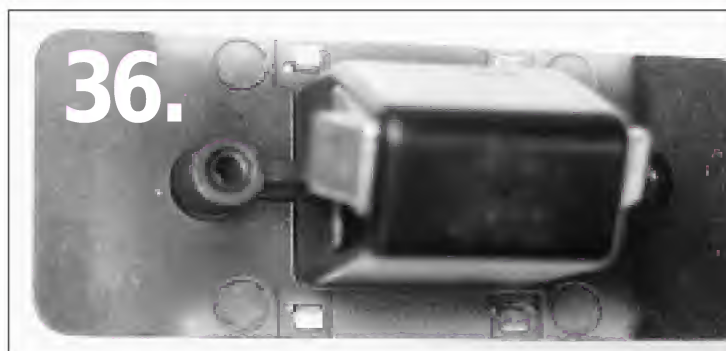
34.

To remove the lock, you must unfasten the two small Phillips head screws.



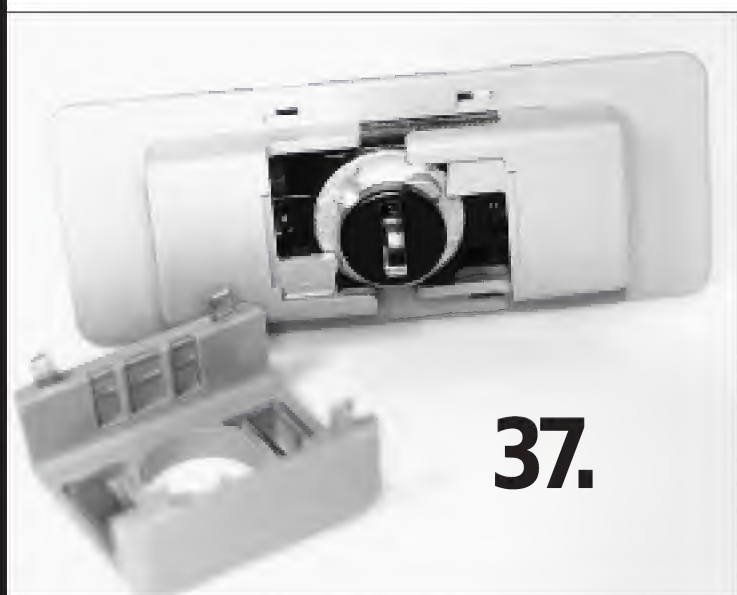
35.

The glove box lock assembly removed from the car.



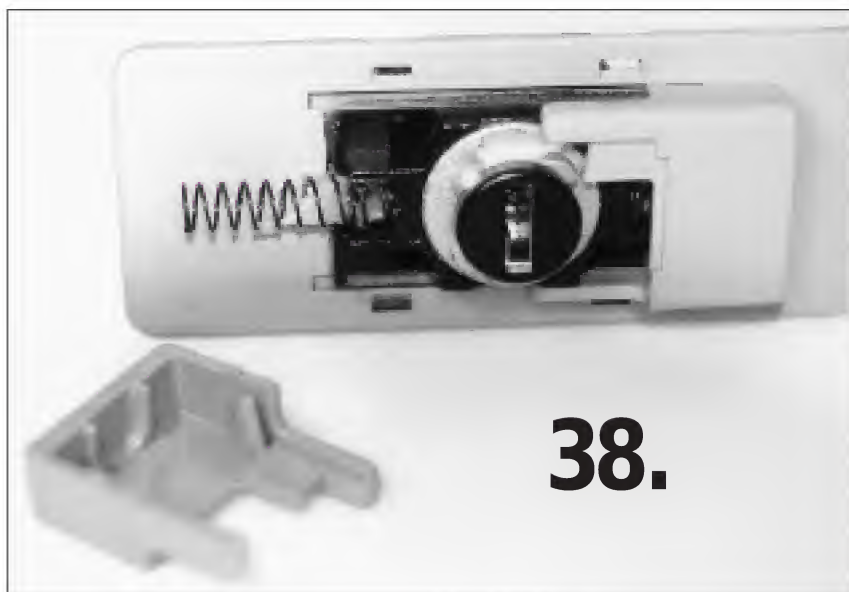
36.

To get to the cylinder plug, you must disassemble the squeeze type button assembly on the front of the lock. Bend the four brass tabs that hold the face of the lock together. The tabs are on the rear section of the assembly.



37.

A view of the plastic face plate removed.



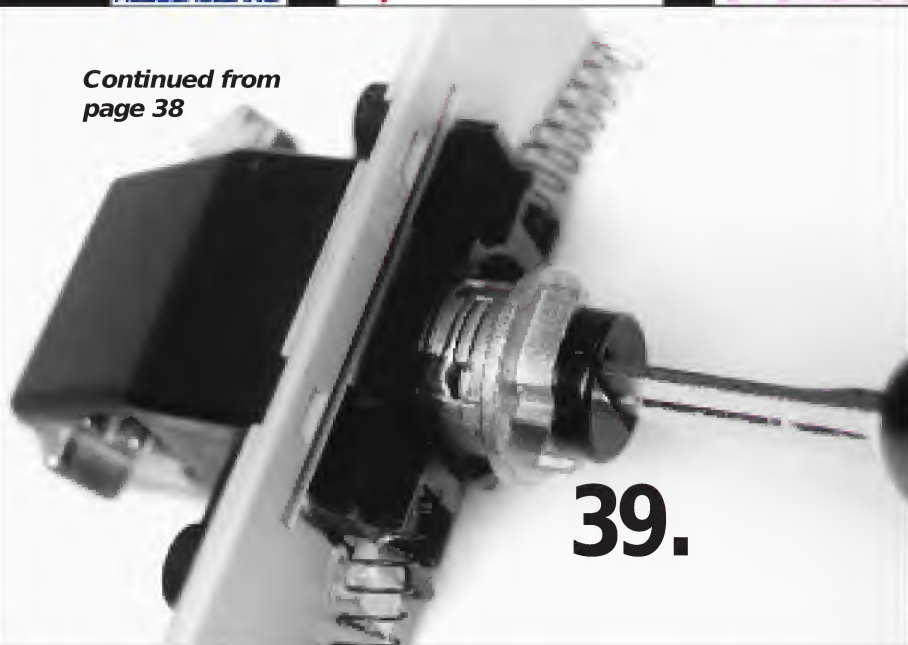
38.

The opposing squeeze buttons will now slide off. Underneath each squeeze button is a spring.

Continued on page 40

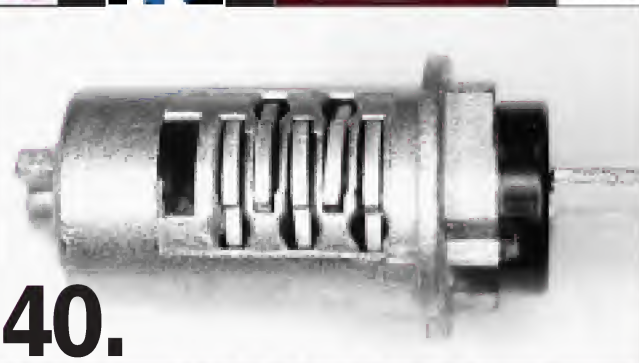


Continued from
page 38



39.

It is important that you mark the cylinder plug before you remove it from the lock housing.



40.

The glove box cylinder plug contains four master wafer tumblers and a valet tumbler. The master tumblers are in positions 5 through 8. The valet tumbler is activated by the tip of the key.

GENERATING FIRST KEY:

- Method 1. Check owners manual for code, written in by the dealer.
- Method 2. Use the trunk release lever to pop open the trunk and remove the lock cylinder and decode it, to make a master key.
- Method 3. Remove passenger door cylinder and read code stamped on lock.
- Method 4. Disassemble the glove box and decode the tumblers. The glove box contains, (if equipped), 4 tumblers in positions 5 through 8. Use a computer program that will progress the remaining cuts.
- Method 5. Impression locks.

VITAL STATISTICS:

Code Series: E5001 - 7697
Key Blanks:
Ilco: X 176/M IT 1
Silca: M IT 8
Jet: M IT 1
Curtis: M IT 1
Spacings:
.098, .181, .264, .346, .429, .512, .594, .677
Cut to Cut: .083
Depths:
1 = .325
2 = .297
3 = .270
4 = .242
Gauged: Shoulder
Cut: Bow to Tip
M.A.C.S.: 2
HPC 1200CM : X F88, CX 88
Framon:

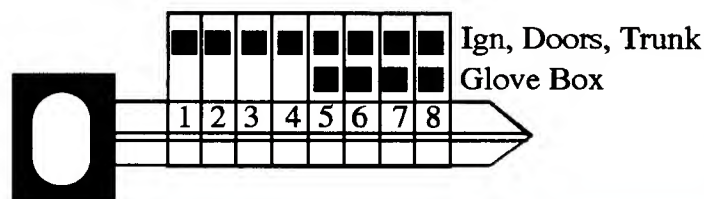
MAKING FIRST KEY:

1. Remove passenger door cylinder and read code stamped on lock.
2. Disassemble door cylinder or trunk cylinder and decode wafers to make master key.
3. Disassemble the glove box lock and decode the tumblers. The glove box contains 4 tumblers in positions 5 - 8. Use a computer program to progress the remaining cuts.
4. Impression locks.

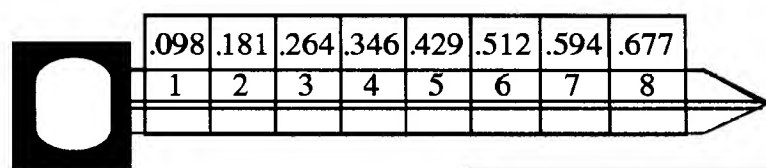


41.

Once the cylinder plug is removed from the lock housing there is nothing to hold the two opposing locking latches in place. Be careful when handling the lock assembling.



TUMBLER LOCATIONS

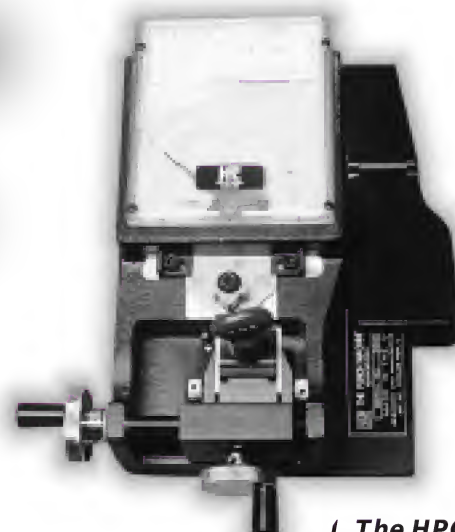


SPACING

TRU

The Punch Machine™

from HPC



1. The HPC 1200PCH bears a striking resemblance to its motorized predecessor: the 1200CMB.



**by
Sal Dulcamaro,
CML**

The HPC 1200PCH Punch Machine™ is an all inclusive punch style key cutting machine. It is a non-motorized code machine designed to operate in a very similar manner to HPC's 1200CMB motorized code machine. The similarities between those two different code machines are quite considerable. The differences, though, are quite significant.

Shown in *photograph 1*, the HPC 1200PCH bears a striking resemblance to its motorized predecessor: the 1200CMB. Some obvious similarities are its use of code cards, the indicator dials which (controlled by the depth and spacing cranks) point to the depth and space indicator marks on the code cards. Some of the obvious differences include the paddle, at the right side of the machine, which operates a punch.

This key cutting procedure replaces the motorized cutter wheel found on the 1200CMB. While the depth crank is at the bottom (same as the 1200CMB), the spacing crank is on the left side, opposite that of the spacing crank found on the 1200CMB. Other similarities and differences are not as obvious, but I will explain them later.

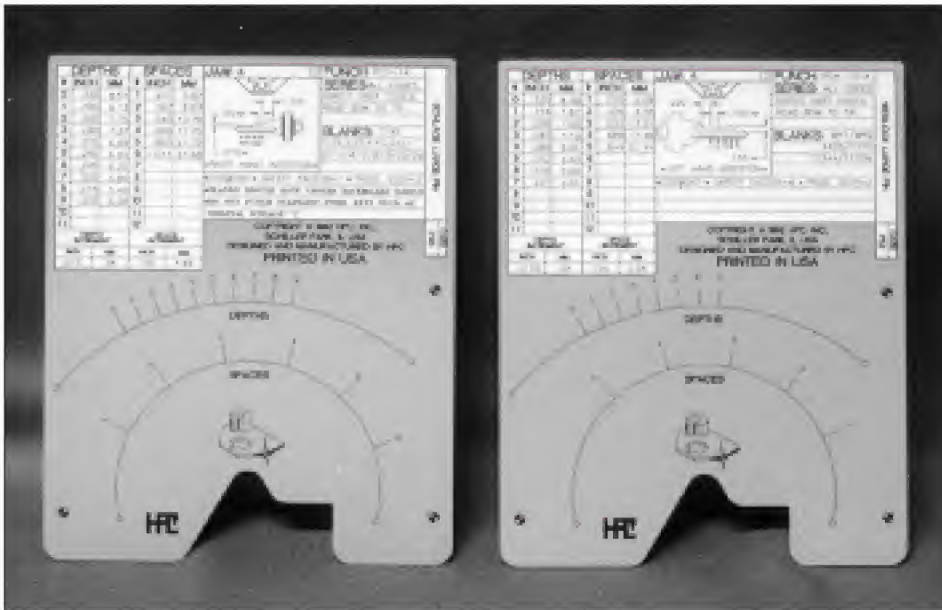
Key Insertion and Gauging

Because it doesn't share the high speed motion of a motorized cutter wheel, the punch (sharp, though it may be) tends to cause greater stress on the surface of the key blank as it cuts. As with all punch style key machines, certain key blanks are not recommended for cutting, because the punch has too great a tendency to dramatically deform the shape of the keyway.

Keys that have the most problem are those with keyway groove patterns that tend to dramatically curve back and forth. Keys that cut the best tend to have a straight blade surface that runs nearly even with the front or back surface of the key. Some keys with the straight surface

in the center may tend to deform slightly as the punch pushes against it with less back support. Ideally, the main cutting surface at the top of the key blade should be as close as possible to the back surface of the jaw, to provide the most support as the key is punched. That would tend to minimize distorting or deforming the key from the process of punching the cuts. The profile of the keyway tends to determine from which direction the key is placed in the jaw. The direction is shown visually on the code card.

Photograph 2, shows two code cards for types of keys that insert into the jaw from opposite sides. The Schlage card (on the left) indicates that Schlage style keys should be inserted from the right side of the jaw. Similar to cards used with the 1200CMB, space and depth indicator marks have corresponding dimension specifications listed on the card. A diagram of the key is at the top center of the card, with key cut spacing dimensions. There is one dimension from the shoulder of the



2. Two code cards for types of keys that insert into the jaw from opposite sides.

key to the first cut, and a separate dimension between pin chambers. The picture of the key shows its relative position when inserted from the right side of the jaw.

Cards that indicate left hand insertion would have the illustrated key pointing the opposite direction. The Weslock card (on the right) is an

example of a key requiring left hand insertion. The picture of the Weslock key at the top center of the card is facing opposite the Schlage key. There are two scales on each code card: depths and spaces. The depths are indicated along the arc shaped scale on top. Spaces are indicated along the lower arc shaped scale.

Notice that the Schlage card lists the numbered space positions clockwise, or left to right. The opposite is true for the Weslock card, with the numbers listed right to left.

Key will be either shoulder or tip gauged. The space indicator marks are presumed to be accurate as long as the key is properly gauged. *Photograph 3*, shows a close-up of the key vise (or jaws) and the key stops (gauges) on either side. Because keys can be inserted from either the left or right, each can be alternately a tip or shoulder stop. I am pointing to the left hand gage, which acts as a shoulder gage for keys that require left hand insertion (such as Weslock). It could also work as tip gage for keys that call for right hand insertion. The right hand gauge, on the other side of the jaw, is used as a shoulder gauge for shoulder stopped keys that insert from the right (such as Schlage). It could also be a tip gauge for a tip stopped key that inserts from the left.

Cutting a Key

Before a key can be cut, it must be properly inserted and positioned. In *photograph 4*, the Schlage key is inserted from the right side. The

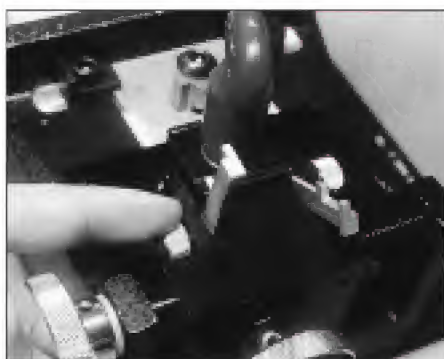


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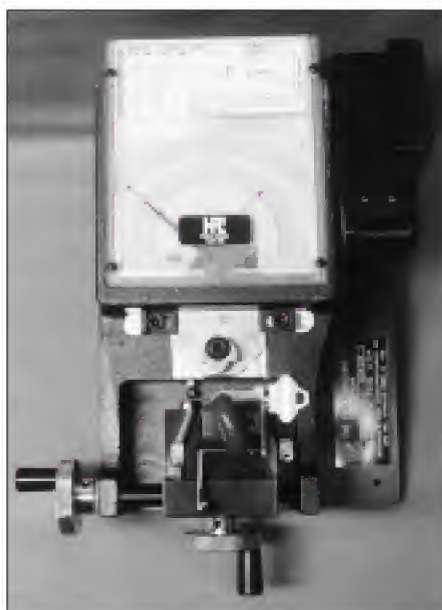
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3. A close-up of the key vise and the key stops on either side.

paddle folds back to give more room for positioning the key. The right hand gage is used as a shoulder stop to position the key correctly. The key should seat flat in the jaw and should not tip one way or the other. Like any other key cutting machine, it is a good idea to clean out any metal chips to avoid key cutting inaccuracies.

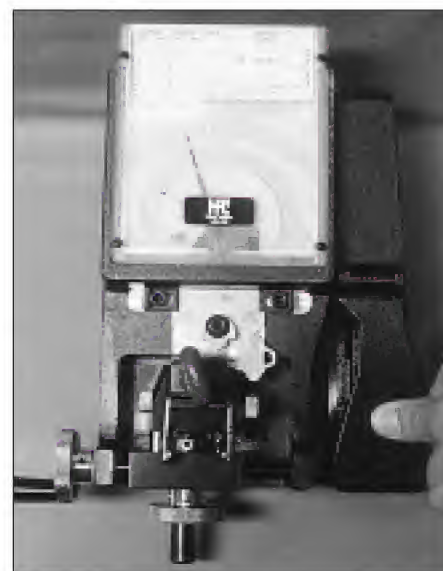
The spacing crank is on the left side of the machine (toward the bottom). It controls side to side (lateral) motion. Turning the crank clockwise moves the key carriage to the left. If you turn the crank counterclockwise, the key carriage moves to the right. The crank at the very bottom is the depth crank. It



4. The paddle folds back to give more room for positioning the key.

controls motion of the key carriage toward or away from the punch. Turning the crank clockwise moves the carriage inward toward the punch. If you turn the crank counterclockwise, the carriage moves outward away from the punch. There are different minimum cutting depths depending on the punch being used. The minimums are as follows: PCH-1011 .145 inch, PCH-14 .150 inch and PCH-1014 .160 inch. If you are using pre-made code cards, those minimums should have already been taken into consideration. When using a micrometer card and working from dimensions, however, you will have to take the minimums into account before making very deep cuts. Otherwise, you could damage the jaw or punch.

In photograph 5, the spacing crank has positioned the carriage so that the punch is in line with the first cut position on the blank key. There is a distinct difference between the motorized 1200CMB code machine and the 1200PCH in the way the depth crank works. For the 1200CMB, after the motor is running and the space is set, the turning motion of the depth crank moves the key toward the moving (and cutting) cutter wheel. It cuts deeper and deeper until you stop the rotating motion (which brings the key closer to the cutter), then you reverse rotation moving the cut key away from the cutter. The 1200PCH, by contrast, requires you to set the space and depth dimensions completely before you begin to cut. With a #3 depth set in photograph 5,

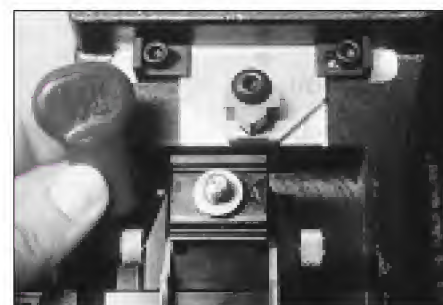


5. The spacing crank has positioned the carriage so the punch is in line with the first cut

the action of pushing down the paddle moves the punch toward the blank key until the cut is made. That basic procedure would be repeated until all the cuts were made.

Changing the Jaw or Punch

Except that keys can be inserted from either side (for The Punch Machine), the jaw is very similar for both the 1200CMB and the 1200PCH. Photograph 6, shows the standard setting with the "A" side of the jaw in use. The wing nut has been removed so the jaw can be changed. I am holding the top jaw sideways in photograph 7, to give a clear view of how the "B" side of the jaw works. A short lip can be seen on the top right side of the jaw. The "B" side of the jaw works in the same way for both the 1200CMB and 1200PCH. Keys that require cuts deeper than those allowed by the minimum depths (listed earlier for the different punches) can be lifted higher and closer to the punch by being boosted up on that lip. It is also sometimes used with Best style keys, except that the lip does not

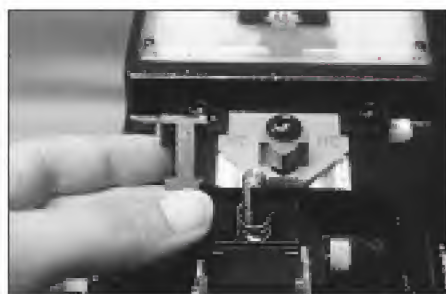


6. The standard setting with the "A" side of the jaw in use.

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7. Holding the top jaw.



8. The required punch for any particular key is usually indicated on the code card.



9. The second of two toe clamps is being loosened.



10. Then the same Allen wrench is used to loosen the punch screw.



11. After the screw is removed, the punch and die assembly are removed.

boost the key higher. Instead, the front face of the lip helps to grip the irregular profile of the key.

The PCH-14 is the punch and die set currently installed. It can be removed quite easily and replaced with either of two others included with the machine. Those two are the PCH-1011 and PCH-1014, shown in *photograph 8*. The required punch for any particular key is usually indicated on the code card. A special Allen wrench is included for changing the punch. In *photograph 9*, the second of two toe clamps is being loosened. Both toe clamps should be moved outward, off the surface of the die plate. Then the same Allen wrench is used to loosen the punch screw in *photograph 10*. After the screw is removed, the punch and die assembly are removed in *photograph 11*. You can see two holes where the punch was removed. The top hole is for the punch screw, and the connected hole (just below it) is for the punch itself.

The punched metal of the key travels down the lower hole when the key is cut, and the metal chips fall through the machine onto any table or surface below it. The replacement punch and die can then be inserted in the same place, and the punch screw reattached. It is important that the punch screw is hand tightened and the punch arm depressed (to line up the punch and die unit) before the final tightening of the screw. That is followed by repositioning and tightening the toe clamps.

Each code card should indicate which punch is needed for cutting a key. For those keys that don't have a card made up, there is a reference book that HPC makes with a listing of punch units best suited for particular keys even if no code card is currently available.

Code Cards

The 1200PCH Punch Machine comes with 101 different code cards, including four micrometer cards. The key insertion direction is listed on each card. Some keys will be shoulder stopped while others will be tip stopped. The stop used will depend on the key insertion direction. Some cards, like the two used with the five cut (H50 and H51) Ford keys, replace only one card normally used with the motorized

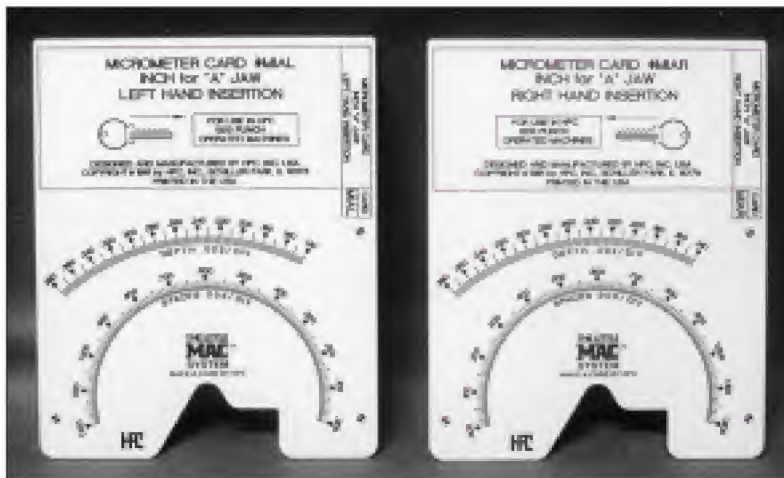
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12. The 1200PCH must have two different micrometer cards to allow for either direction of insertion.



1200CMB. Because they have reverse keyways, the card has to be set for spacing for different insertion direction, even though the spacing and depths needed are the same for both keys. It is important to choose the correct card for the insertion direction. There are similar instances for some Nissan keys (and a few others) where different keyway profiles require an extra card for opposite direction insertion even when no difference is required in the key cut spacing.

The majority of the code cards that come packaged with the machine are

for automotive use. Plus, many popular commercial/residential code cards are included as well. Less popular keys can still be cut on the 1200PCH with the use of a micrometer card. Where the motorized code machine has one micrometer card for use the "A" side of the jaw (since all keys insert from the same direction), the 1200PCH must have two different micrometer cards to allow for either direction of insertion. They are shown in *photograph 12*. The card on the left is for left hand insertion and the card on the right is for right hand insertion. These two cards

use inch measurements. There are two other corresponding direction micrometer cards included that use metric dimensions. For whatever reason, there are no micrometer cards specifically for use with the "B" side of the jaw, as there is with the 1200CMB.

The 1200PCH comes complete with 3 punches (PCH-1011 for small cylinders, PCH-1014 for Kwikset/ Weslock, and PCH-14 for standard large cylinders), 101 code cards (including 4 micrometer cards), Depth & Spacing Book, 3 wrenches for adjustments, and a fully illustrated manual.

Optional accessories include a device called the "Little Mac" Make-A-Card unit, for making custom cards for any applications where the cards are not currently commercially available. A set of blank cards is included with the unit for marking to your specifications. HPC also makes a hard plastic briefcase-style carrying case for the 1200PCH. All of these HPC products are available through your authorized HPC distributor. For more information, on any HPC products, call HPC at 847-671-6280.

This all inclusive Punch Machine is extremely easy to use. I liked it so much, I bought the sample. **TNL**



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Hand-Held Code Cutters

by
**Sal
Dulcamaro,
CML**

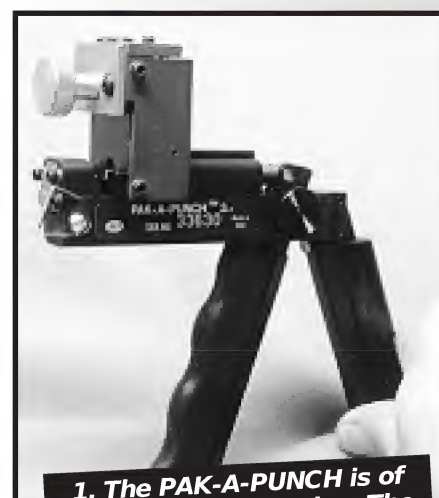
There are a number of different types and brands of code machines capable of originating keys. Going out on a job to fit keys to a car, for example, can sometimes make one type of code cutter, such as the hand held, more convenient. While the motorized code machines tend to be more precise, the hand-held cutters are more compact and don't require an electrical outlet. If you had to fit a key to a car in the middle of a parking lot, or cut the key while sitting in the driver's seat of the car, a hand-held cutter is probably the obvious choice.

The two most common hand-held code cutters (designed primarily to cut automotive keys) are the PAK-A-PUNCH from A-1, and the #15 Code Cutter from Curtis. With a variety of add-on accessories, both of these machines are capable of cutting most of the common automotive keys by code. While both of these machines are useful and get the job done, they differ in the way that they each have different specialized features. I will review the basic construction and operation of both of these machines.

The PAK-A-PUNCH Model 3 from A-1

Shown in *photograph 1*, the PAK-A-PUNCH is of very solid construction. The base Model 3 unit comes equipped with a 90 degree punch and die (the most universal setup), but does not include accessories to cut any particular automotive keys. Called "QUICKCHANGE" Kits, accessory kits include a Depth Knob and Vise Assembly designed to cut a particular type of auto key with a certain number of cut positions and cut depths. *Photograph 2*, shows a "QUICKCHANGE" Kit for the 8-cut 1998 Chrysler keys. Each kit will normally include a Depth Knob to allow the Model 3 to cut all the possible depths, plus a Vise Assembly to hold and orient a key properly.

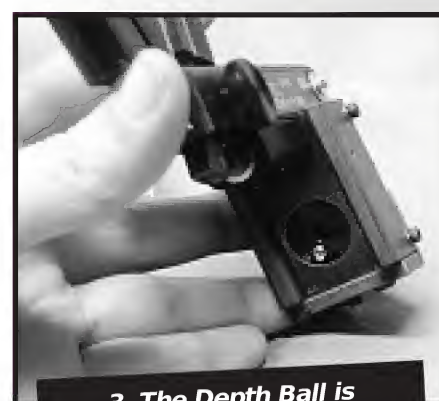
QUICKCHANGE Kits can be purchased separately, or they can be ordered in packaged sets along with a base Model 3 unit. One of them is the PAK-SSB, which is an assortment including a Model 3 machine and various Depth Knobs and Vise Assemblies to cut most of the common domestic auto keys. The PAK-MS2 is an assortment designed to give the user the ability to cut most common foreign car keys. This set includes the PAK-88T punch and die



1. The PAK-A-PUNCH is of very solid construction. The base Model 3 unit comes equipped with a 90 degree punch and die.



2. a "QUICKCHANGE" Kit for the 8-cut 1998 Chrysler keys.



3. The Depth Ball is resting in the opening where the Depth Knob will eventually be placed.

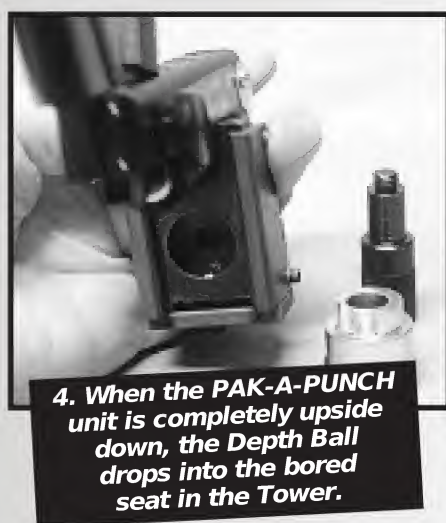
set. The PAK-MS3 assortment is the master set for cutting both domestic and popular foreign car keys. This also includes the PAK-88T punch and die set. There are other sets that include various groupings of Depth Knobs and Vise Assemblies.

Continued on page 50

Continued from page 48

Installing a Depth Knob

When installing a Depth Knob for the very first time in a base Model 3 cutter, you must first locate a 1/4 inch diameter "Depth Ball" (bearing) in the package. *Photograph 3*, shows the Model 3 unit nearly upside down. The Depth Ball is resting in the opening where the Depth Knob will eventually be placed. When the PAK-A-PUNCH unit is completely upside down, the Depth Ball drops into the bored seat in the Tower (see *photograph 4*).



4. When the PAK-A-PUNCH unit is completely upside down, the Depth Ball drops into the bored seat in the Tower.

Pulling against the spring tension in the Tower Assembly, the Depth Ball falls into the bored seat a bit deeper to allow the insertion of the Depth Knob. After the Depth Knob is set in place (preventing the Depth Ball from coming back out), the PAK-A-PUNCH can be turned back right side up.

The System Change Screw is about to be inserted to hold the Depth Knob in place (see *photograph 5*). It appears to have a slot for a screwdriver, but it can be hand tightened. When changing to a different Depth Knob, it is important to remember about the Depth Ball and only remove and replace Depth Knobs with the Model 3 unit upside down.

Holding the Key

While the Depth Knob determines the depth increments, the Vise Assembly is required to both hold the key blank (about to be cut) and to also set the cut spacing. A series of equally spaced grooves cut into the Vise Assembly helps create click stops set into fixed positions. The stop surface of the vise positions the blank key so that those

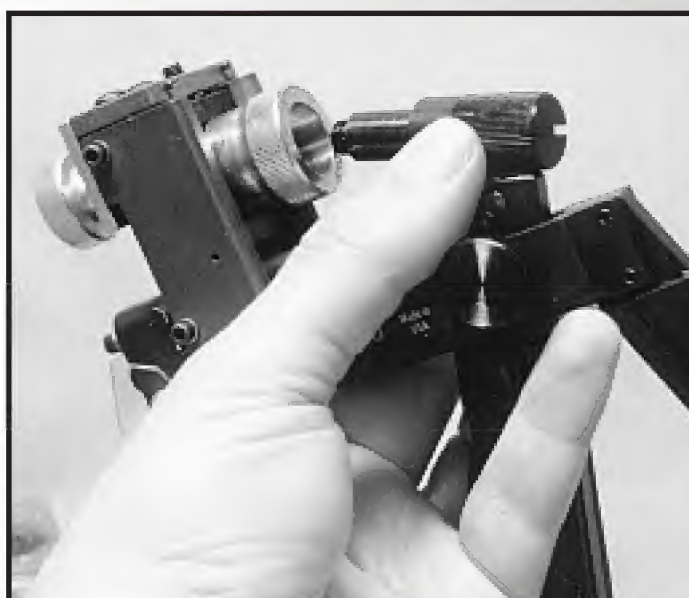
fixed positions match the correct cut spacing for specific types of automotive keys exactly. A matched Vise Assembly normally is included in a QUICKCHANGE Kit along with a Depth Knob. The Vise Assembly can be installed even faster and easier than the Depth Knob.

Photograph 6, shows the Vise Assembly about to be installed into the PAK-A-PUNCH Model 3 unit. Viewing the front of the unit, the Vise Assembly is being inserted from the left side. It can be slid in a short distance until it stops. Then the spacing knob can be turned slightly as the Vise Assembly is pushed further in until there is gear tooth to gear tooth contact. Once the teeth of the spacing knob are in full contact with the Vise Assembly, the spacing knob can fully control side to side motion. Depending on the length of the key blade for any particular automotive key blank being cut, the Vise Assemblies will vary somewhat in width. Regardless of the width of the Vise Assembly, the installation procedure should be virtually identical.

The key blank is clamped securely into the Vise Assembly (see *photograph 7*). The printed instructions (included with the PAK-A-PUNCH) suggest that clamping the key into the vise before installing the Vise Assembly into the Model 3 unit will produce superior results. It might be a bit inconvenient doing that every time, though, especially when dealing with double sided keys or when making additional key copies. It worked perfectly fine when loading

the key into the vise when the Vise Assembly was already installed.

Dealing with double sided automotive keys is usually much easier with the hand-held code cutters over the motorized code machines. Most of the motorized machines determine depth of cut referencing from the uncut surface of a double sided key. After cutting one side of the key, it often becomes very awkward to try and cut the second side because the reference surface (now already cut) will be irregular and will not seat flat and straight in the key machine vise. The hand-held punch type code cutters normally hold the key in reference to a milled surface of the key that normally remains consistent (even after cutting one side of the key).



5. The System Change Screw is about to be inserted to hold the Depth Knob in place.

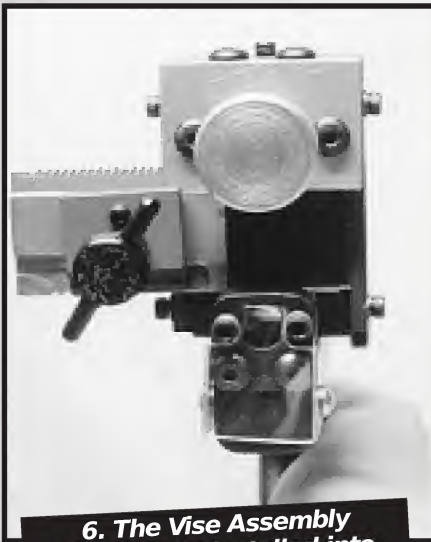
In *photograph 8*, part of the back surface of the Vise Assembly can be seen. There are stamped numbers and indicator marks to allow you to easily determine what key spacing position is being cut. A click stop will position the Vise Assembly in an exact spot, so you won't need to fine tune or guess how close you need to be to an indicator mark.

Replaceable Punches and Extended Capabilities

Not all automotive keys require the same key cut profile. In fact, a good number of import auto keys require a different cutting angle. If the punch and die assembly is not designed to be replaceable, a completely separate hand-held code

cutter would be required to cut those other keys. The PAK-A-PUNCH Model 3 is designed to allow easy and relatively quick replacement of the punch and die to let it also cut keys with different cut profiles.

The PKS-88T punch and die set. The 88 degree punch is designed mostly for cutting import auto keys. An automotive applications booklet



6. The Vise Assembly about to be installed into the PAK-A-PUNCH.



7. The key blank is clamped securely into the Vise Assembly.



8. There are stamped numbers and indicator marks to allow you to easily determine what key spacing position is being cut.



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from A-1 indicates which types of automotive keys require the use of the 88 degree punch. The booklet also lists the various car models and years and the appropriate "QUICK-CHANGE" Kits needed for those applications.

Being able to change the punch and die sets also allows PAK-A-PUNCH owners another advantage. Along with matching Depth Knobs and Vise Assemblies, the punch and die sets allow Model 3 users to also cut some commercial style keys. Currently they are limited to Schlage and Kwikset. The sets come complete with punch, die, Depth Knob and Vise Assembly. The Schlage set is #PK3-CV1, and the one for Kwikset is #PK3-CV2. The instruction sheets indicate an installation time of about 7 to 10 minutes for all the parts.

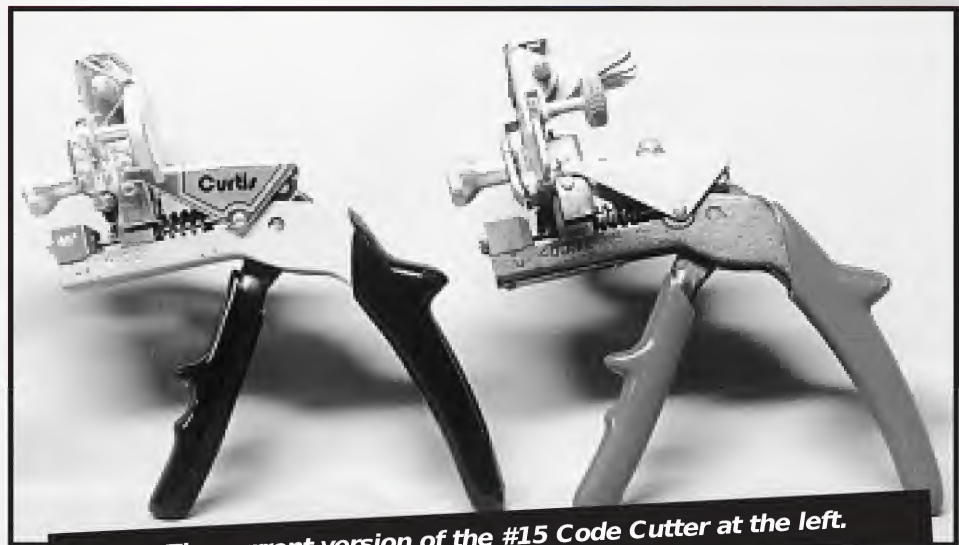
The Curtis No. 15 Code Cutter

Often referred to as just the "Curtis Clipper", the #15 Code Cutter is the elder statesman of the hand-held automotive code key cutters. If you look at it differently, you might also think of it as the descendant of the old #14 Code Cutter. Before the current generation #15 Code Cutter, there was the #14 Code Cutter which was followed by the original #15 Code Cutter.

The #14 Code Cutter was similar in appearance to the #15, but it used code discs to set the depths for the automotive keys cut. The #15 Code Cutter uses "Cam-Sets" to generate the different cut depths. With much shorter automotive keys, the original Cam-Sets were generally narrower. As the auto keys got longer, the Cam-Sets had to become wider. The original #15, however, was not equipped to handle the wider Cam-Sets.

The #15W Code Cutter ("W" meant "wide") was introduced to be capable of cutting those longer keys, and to accept the newer and wider Cam-Sets. As time passed, the "W" was omitted. The wide version became the standard, and the Code Cutter was again referred to as the #15. Still, most everyone just called it the Curtis Clipper.

The most current version was the result of another re-design just a few years ago. It was beefed up and modified with the intention of making it stronger and more accurate. Photograph 9, shows the current



9. The current version of the #15 Code Cutter at the left.

version of the #15 Code Cutter at the left. Its immediate predecessor is to the right. While it is generically referred to as the #15 Code Cutter (anything made now is presumed to accept the wider Cam-Sets), each version does have a specific model designation. With different key cut profiles required, there were different punch and anvil combinations having different cutting angles. Even before the most recent re-design, there were special purpose #15 Code Cutters. The most common version now made is the 15W-45 Degree-Universal Domestic Model. The 15W is indicated for ordering, but on the cover of the Curtis Applications and Reference book, the "W" is omitted.

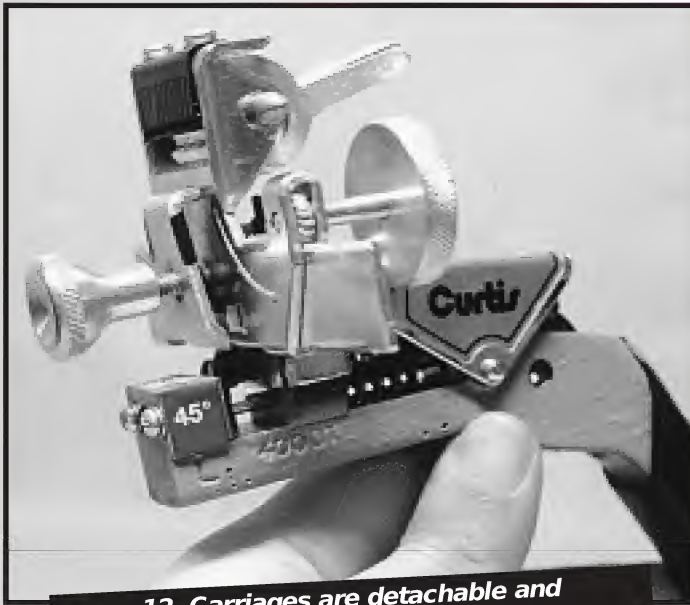
The punches are not designed for convenient replacement or exchange out in the



10. The Cam-Set for the new 8-cut Chrysler keys is shown.



11. After the Cam-Set is seated into the cam-holder the cam pin slides through to hold it in place.



12. Carriages are detachable and install very quickly and easily.



13. The Key Clamp and Key Clamp Knob will first be removed before installing the Carriage.

field, so different Code Cutters are made for different applications. To cut most import auto keys, you would need the 15W-47 Universal Import Model. Other versions of the #15 Code Cutter are made to only cut certain types of keys. Auto keys designed to be only cut on

these specialty code cutters, can (in some instances) also be cut by the more standard machines.

The Cam-Sets

The Cam-Sets are the key to setting the cut depths when cutting automotive keys. A Cam-Set

looks like a stack of round discs with arms sticking out at one end. The Cam-Set for the new 8-cut Chrysler keys is shown in front of the #15 Code Cutter (see photograph 10). This stack of round discs that are bound to each



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14. A tip stop in the Carriage, for positioning the key, can be seen at the right side of the Carriage.

other, can be individually rotated to set the depths in each of the eight different cut positions.

The cam-holder opening appears to be too narrow to fit the Cam-Set. There is a removable narrow spacer plate at the right side of the cam-holder. Once the spacer is removed, a standard wide Cam-Set will fit properly. The spacer is designed for use when using a Cam-Set originally designed to fit in the much narrower cam-holder of the original design #15 Code Cutter.

After the Cam-Set is seated into the cam-holder the cam pin slides through to hold it in place (see photograph 11). When the Cam-Set is properly installed, the arms on each cam can be moved to set each one to a specific depth.

Holding the Key

The device used to hold the key in the #15 Code Cutter is called the Carriage. Each Carriage is made to securely hold a specific keyway or group of related keyways. Carriages are detachable and install very quickly and easily. No Carriage is yet in place (see photograph 12).

The Key Clamp and Key Clamp Knob will first be removed before installing the Carriage. After removing them the matching Carriage for the 8-



15. Looking down on the Cam-Set from above you see what appears to be a viewing window which displays the cut depth number of each cam position.

cut Chrysler is ready to be installed (see photograph 13). Two almost rectangular openings (under

where the key clamp was) match with same shaped raised surfaces on the back of the Carriage. The Carriage will be pressed into place there to hold it securely and insure accurate keys.

There are eight notches (or detents) in the Carriage to interact with the detent spring. This allows click stop action, which makes setting the spacing obvious and easily detectable. A tip stop in the Carriage, for positioning the key, can be seen at the right side of the Carriage (see photograph 14). After the Key Clamp and Knob are reinstalled, a key will be ready to be inserted into the Carriage and cut to depth.

Cutting the Key

The Cam-Set of the #15 Code Cutter allows you to set all cut depths at the same time. Each individual cam of the Cam-Set is numbered and stamped for every cut depth. Looking down on the Cam-Set from above you see what appears to be a viewing window which displays the cut depth number of each cam position (see photograph 15). You can set all the cams individually and verify the order of the cuts, then punch each cut position one at a time without having to think about the depths or reset anything. In fact, if you need additional copies of the key (or just

need to cut the opposite side of a double sided key), you are ready to cut again without resetting.

Both the PAK-A-PUNCH and Curtis Clipper will sometimes cut keys inserted from either the left or right (depending on the keyway profile). Since the PAK-A-PUNCH requires you to set each cut one at a time, there is little difference in your cutting procedure either from the left or the right. The Curtis Clipper, however, displays all the cuts at the same time. Since you might read the order of cuts from a code book, you might be tempted to set the cams to read the same numbers in the same order left to right. That will work fine in most cases, but if a key is inserted in a direction which changes the orientation of the key in relation to the key cuts, you may be forced to reverse the order. Instead of reading the order of the cut numbers from left to right, you may have to read them right to left.

The PAK-A-PUNCH (like other A-1 products) is usually sold through locksmith supply companies. If your supplier doesn't stock them, contact: A-1 Security Manufacturing Corp., 3001 West Moore Street, Richmond, VA 23230. Phone: 804/ 359-9003.

Curtis sells direct. You can contact them at: Curtis Industries, Inc., 6140 Parkland Blvd., Mayfield Hts., OH 44124. Phone: 800/ 555-5397.

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CO-78 (as shown)

AS-1 (as shown)

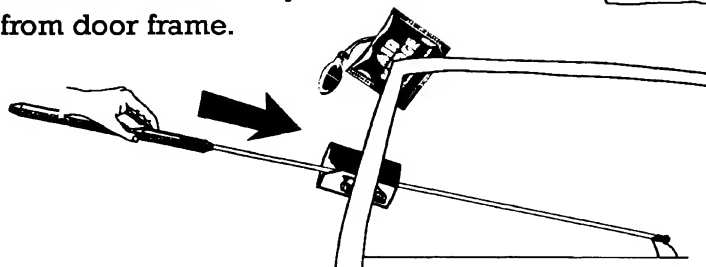
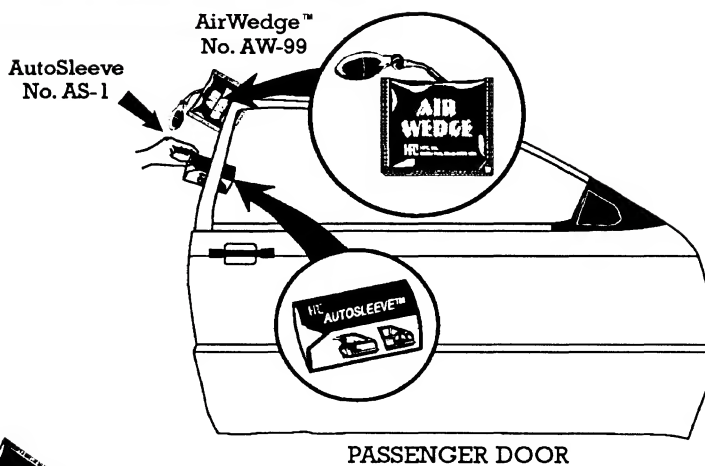
AW-99 (as shown)

Optional Tools:

No. CO-6

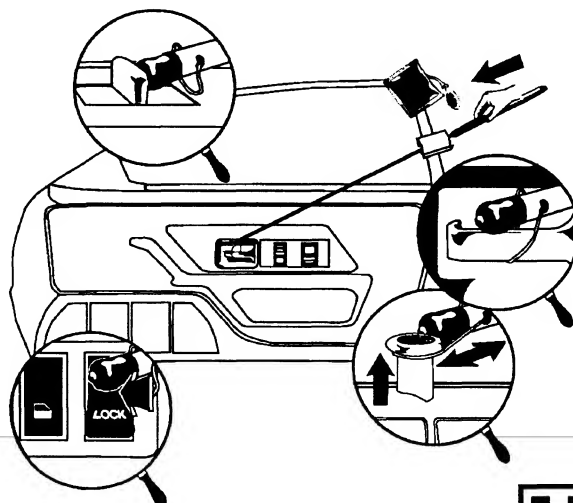
1 Carefully wedge a gap at the window and frame using an Ultimate Auto Wedge or an Air Wedge. Use the AutoSleeve to prevent damage to paint or glass.

NOTE: Extra care should be taken when prying window or door away from door frame.



2 Insert tool through gap.

3 Position tip of tool on electric lock switch, or button, or hook inside handle and pull to open.



TC-5

MODEL INDEX

| ACURA | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 |
|----------------|---|----|------------------|----|----|----|------------------------|----|--------------|----|----|-----------------------------|------------|----------------------|----|
| CL 2 Door | | | | | | | | | | | | | | TC-5 | |
| Integra 2 Door | | | LP-2 | | | | | | UO-1 (CO-61) | | | TC-2, HR-10 UO-1 (CO-54) | | | |
| | For LP-2 style, pawl is on left side of lock. Linkages are shielded in later model cars. 95+ UO-1: As far forward as possible in drivers door. | | | | | | | | | | | | | | |
| Integra 4 Door | | | LP-2 | | | | | | UO-1 (CO-61) | | | HR-2, TC-2 | | | |
| | Use HR-2 style on back door. | | | | | | | | | | | | | | |
| Legend | | | HR-1, HR-7, LP-2 | | | | | | BC-2 | | | | | | |
| NSX | | | | | | | HR-1, LS-1, UB-2, VR-6 | | | | | | | | |
| RL | | | | | | | | | | | | | | TC-5, LS-1, HR-10 | |
| | Use HR-10 style on back door. | | | | | | | | | | | | | | |
| SLX | | | | | | | | | | | | | UB-1, VR-6 | | |
| TL 4 Door | | | | | | | | | | | | | | TC-5, HR-10 | |
| | Use HR-10 style on front door. | | | | | | | | | | | | | | |
| Vigor | | | | | | | UB-2 | | | | | | | | |

| ALPHA ROMEO | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 |
|-------------|---|----|----|------|----|----|----|------|----|----|----|----|----|----|----|
| *75 | TV-1 | | | BC-1 | | | | | | | | | | | |
| Graduate | TV-1 | | | | | | | | | | | | | | |
| GTV | VR-1 | | | | | | | | | | | | | | |
| | VR-3 and VR-5 styles can be applied with CO-39. | | | | | | | | | | | | | | |
| Milano | | | | BC-1 | | | | | | | | | | | |
| Spider | TV-1 | | | | | | | | | | | | | | |
| 164 | | | | | | | | BC-1 | | | | | | | |

* Vehicles not sold in the USA.



ACURA - ALPHA ROMEO

The LIGHTER Side

"Ain't This a
Heckuva Way to Make a Living?"



by
**Sara
Probasco**

During the first year or two after we moved to Uvalde, Texas, and opened our locksmith business, Joe Newton (of recent The Newton Boys movie fame) used to come into our store to have keys made, from time to time. We heard various tales about the exploits of the four infamous brothers, something newcomers to the area were invariably exposed to by the old-timers, if they stayed around long enough.

One man told us with a chuckle, "I heard they prayed to God, give me the strength to change the things I can, the grace to accept the things I cannot, and a great big bag of money."

"The Newton Boys referred to themselves as businessmen, like doctors and lawyers, and storekeepers," another recalled. "At one time, I thought calling somebody a businessman was a compliment, but now, when I hear the term, I begin to wonder if the guy has been indicted for something, or if he just hasn't been caught yet."

The movie, The Newton Boys, was amazingly true to the facts. The Newtons carried guns only for self-protection, loaded their guns only with birdshot, and never killed anyone. A local retired lawyer recently told us that when he asked Willis, then almost 90 years old, why they all had carried shotguns, rather than handguns, he replied, "Well, Bob, I didn't live this long by being stupid or careless. Lots of people'll tangle with you over a little pop-pistol, but who's gonna argue with a shotgun?"

They were loyal to one another and to their common "cause," but for one of the younger brothers, Jess, his heart really wasn't in it.

Besides, he was the only drinker in the bunch, and he sometimes had a problem keeping their activities under his hat.

"I kept tellin' Jess, Never miss a good chance to shut up," Willis purportedly said. "I guess I should have left him to do his bronc busting. After we'd pulled a job, he'd go out and get a snoot full and begin spouting off, trying to impress the ladies. He just never could get it, that lettin' the cat out of the bag is a whole lot easier'n puttin' it back in."

As was mentioned in the movie, the Newtons stuck to blowing only "square door" safes in the banks they hit. There was a good reason for this. The straight-sided doors permitted just enough "play" to force nitroglycerin into them. Round doors didn't, therefore they were virtually "unblowable."

In fact, the safe known as the cannonball (among less politically correct nicknames) presented problems for a lot of bank robbers. Globular in shape, as the name implies, and made of thick manganese-steel, they were almost

impregnable. But, where there's a will...

A local federal marshal once told me of one gang of seven safe crackers who were working around Del Rio, Texas, several years ago, and came across a cannonball safe they knew held a lot of money. Rather than risk being thwarted in their efforts and lose out on a big haul, they backed off and stole a similar type safe from another location, tossed it into the back of their truck, and carried it with them to a remote area of Arkansas, determined to figure out how to get into it.

For weeks, they experimented with various chemicals and gases. Finally, they managed to devise an extra-hot torch (not unlike the modern thermal lance) that could cut through the metal and get them in. Back to Del Rio they came, sure they were going to hit it big, this time. No sooner had they started cutting through the metal and they were apprehended, landing them in federal prison.

"Well, you know what they say," Don said when we were talking about safe crackers, one evening. "Good judgment comes from experience, and a lot of that comes from bad judgment."

The thing that gets me is so many of the old safe crackers were highly intelligent people. I remember hearing that Willis Newton only went to school a couple years, but he covered several grades during that time. When he quit, his teacher begged his parents to try and get him back into school. She told them, Willis is very smart. If he gets an education, there's no telling what he'll become!

"Yeah," Don inserted. "But she added, 'and if he



Continued from page 58

doesn't get an education, there's no telling what he'll become!' Speaking of cracking safes, I got a call to open one in Laredo tomorrow. Want to ride down with me?"

"That's a long way to go. Isn't there somebody closer they can call?"

"That's what I asked, but they said they want me. What can I say?"

Don had been contacted by a safe manufacturer, saying a business in Laredo had purchased a new safe, and it wasn't operating properly. They wanted him to run interference for them. Laredo is one hundred forty miles southeast of us, but the trip charge and mileage didn't seem to matter to them.

"Did you pack the nitroglycerin?" he quipped, as we pulled out of the driveway early the next morning.

The day was beautiful — pleasantly cool, with the sun shining in a cloudless sky, and the countryside sprinkled with a myriad of colorful wild flowers. Driving along a sparsely traveled two-lane highway with the windows rolled down and an area FM station playing enjoyable music, we chatted most of the trip, stopped for breakfast at a little town along the way, and still reached our destination well before their lunch hour.

Don went inside to work, while I settled back in my seat to read a book I had brought. I had scarcely begun the second chapter when he crawled back into the van and shut the door.

"What's wrong?" I asked. "Did they get it fixed before you got here?"

"No," he answered, filling out his service report. "I guess I took that movie to heart, the other night."

"Oh, which movie is that?" I asked.

"The Newton Boys," he replied. "Getting into that safe was a snap, even without the nitro."

"You mean, you're already finished? You've opened the safe and fixed the problem?" I was incredulous.

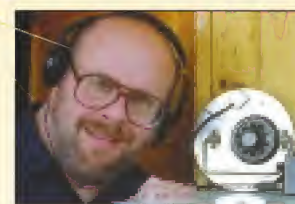
"Yep." With a flourish, Don drew a line and totaled his figures. "All I need is their signature, and we can head home." He stepped down from the van, then turned back with a twinkle in his eye and quoted Joe Newton with a grin: "Ain't this a heckuva way to make a living?" **TRL**



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Diebold Money Chest



by Dale Libby, CMS

In the world of safe servicing and safe cracking, the actual word "safe" is often used when it technically should not be. The proper term might be chest, money chest, burglary chest or safe, or ATM. But, in the real world, the customer can use the word "safe" to mean anything that locks. Most people call a safe a safe, and a vault a vault. They know at least that much.

I have stopped correcting customers about the difference between a fire safe and a money chest. First, they do not care, and it really makes no difference except to the locksmith. Secondly, the customer wants action, and not a lecture about correct nomenclature.

The same goes for me when I am talking to you. I am not trying to lecture you about the correct terminology. In different parts of the country, there are different terms for the same thing. This is true in all professions, but if the meaning is there, it makes no difference what you call something, if the meaning is known. (Tension/Torsion wrench, etc.) A new customer called and said his 'safe' would not open. When I arrived at the theater, I discovered the Diebold money chest (Safe) shown in *photograph 1*. It was the typical Diebold configuration of S&G dial and typical Diebold classic opening handle.

What was different about this safe was that instead of the usual S&G dial, the unit was equipped with the S&G 8400 manipulation proof Group 1 lock and locking dial ring. *Photograph 2*, shows a close up of the 8400 lock and inner butterfly on the dial. In real life, I do not see the 8400 that often. It is rare that I have to go against one of these locks, but in fact, in the last year I have had to service about 6 of these units in very different areas.

The opening sequence for these locks is 4 turns



1. Typical Diebold handle and hinge arrangement label this as a "B" rate money chest. The lock is a key locking S&G 8400 series Group 1 manipulation proof lock.

left, 3 turns right, 2 turns left, 1 turn to zero, hold the dial and rotate the inner spindle butterfly a 1/4 (90 degree) turn clockwise, and then turn the dial right to stop. Cumbersome at best, and confusing to most.

The complaint was that the combination suddenly stopped working. In conjunction with this,



2. Close up of the S&G 8400 MP lock and the inner 'butterfly' at the center of the dial.

there was a new manager at the theater who had never opened a safe like this before. In fact, there was nothing wrong with the safe, except that the new manager did not really know to be exact in his number dialing and did not know the finishing sequence to open the safe.

Photograph 3, shows the inside arrangement of the safe door. There is a large opening cam with three bolts attached. These bolts go into large blocks that hold spring loaded locking bolts at the edge of the door. A strange arrangement, for whenever the door is closed, the locked bolts hit the edge of the safe. As soon as the bolts are opened, they literally pull the opening handle into the locked position. There is no detent to keep the bolts in the retracted position when the door is opened.

An interesting development was the addition of an 'anti-relock' plate screwed to the opening cam. This plate was aluminum and red in color. It was made specifically to fit into the slot in the cam that the relocker would enter when set off. This was probably a shipping block, but I really do not know. The manager did NOT want this plate removed. The customer is

always right. No lectures, No what-ifs. I left the plate in place. A close up of the locked bolt and the anti-relocker plate is shown in *Photograph 4*.

The last picture, *Photograph 5*,



3. Inner view of door and three locking bolts. Note large diabolical relocker bar over the back cover of the S&G 8400 series combination lock.



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shows the lock in the open position. The opening cam rotates a quarter turn to withdraw the three bolts. How would I have attacked this unit if I did not dial it open?

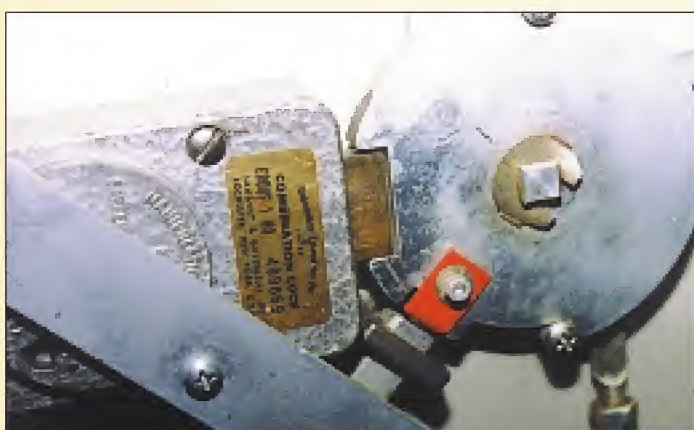
1. Drilling from the front, under the dial is always an option. However, I would not advise pulling the dial to do so. It is necessary to turn the butterfly to open the drive cam. If the dial is pulled, the butterfly will pull as well.

It is best to remove the outer portion of the dial (around the thumb turn protrusion) with a hole saw. Then drill your hole in the desired position. This way a portion of the dial remains in tact as well. One could drill to transfer or drill at drop in, which is at 97 by 7/8 inch. The lock is mounted Horizontal Left (HL)

2. Drilling from the side or top is also an option when going against an S&G 8400 MP lock. The change key

hole is recessed in the back cover, and adds an additional 1/4 inch to the viewing depth. If you do not have a good light source and an excellent scope, viewing through the change key hole is more aggravating than normal with this style of lock. It can be done, however.

In conclusion, choose your method well, and consider drilling through the side or top of the safe, before pulling the dial. OPEN and PROSPER! **TNL**



4. Close up of locked handle cam. Note there is a (red) plate screwed to the opening cam that blocks the relocker from locking into the opening cam. An "anti-relocker" plate.

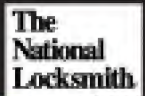
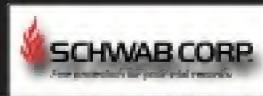


5. Lock open, cam plate revolves and withdraws three spring loaded bar/bolts.

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Ilco 683 COMBINATION LOCK

by Charles Stephenson, CPS

I hear conversations from time to time concerning changes that UL has made in their specifications that will affect electronic safe locks and mechanical safe locks. One interesting specification is the new Group 2M category under UL 768 of mechanical safe locks. Several locks have been introduced to meet this specification with one of the most interesting being the model 683 manufactured by the Ilco Unican Corp. (See photograph 1.)

This lock is offered in a three-wheel version (model 683) or four wheel

version (model 684). The case is cast of zinc alloy and painted a light gray. The bolt is of brass as is the drop lever. The four-way cam allows for mounting the lock in any of the four handings (RH, LH, VU, VD). The lock can be mated with all standard 5/16"-40 dial/ring sets. Nothing new or surprising so far so let's investigate the 683 further.

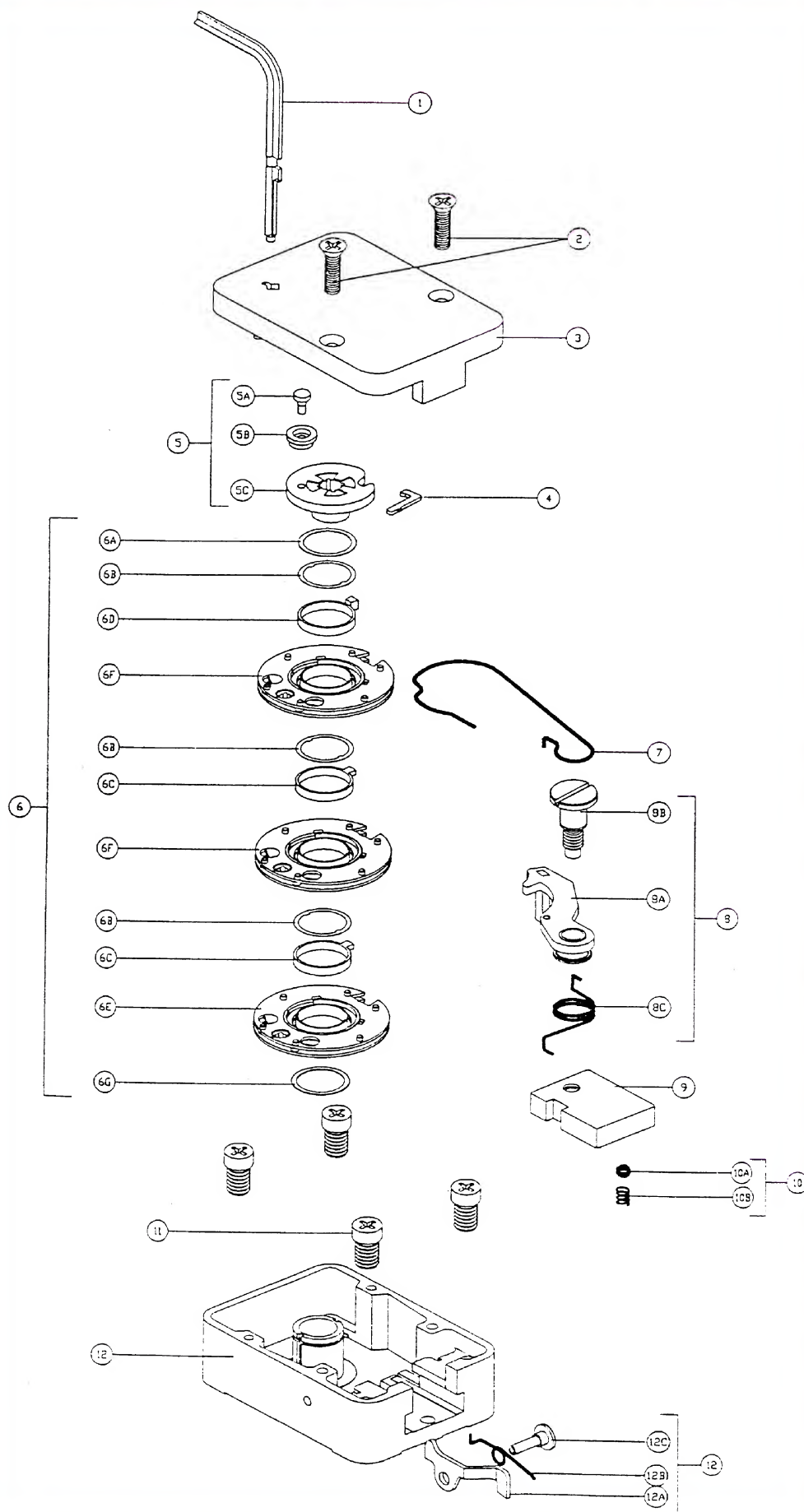
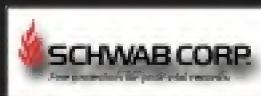
The lock presents a standard spring lever style relock trigger and the dial ring has separate marks for the opening and changing indexes. What makes this lock unique is the

override spring connected to the lever and the eccentric roller mounted on the drive cam, which places this lock in the two-hour manipulation resistant category. (See illustration A.) UL 768 Group 2M and VdS class 2 certifications have been awarded to the models 683/ 684.

Underwriters Laboratories revised their standard 768 effective March 1, 1996 to add the Group 2M which requires 2 hours of manipulation resistance, internal re-locking devices and vibration testing.



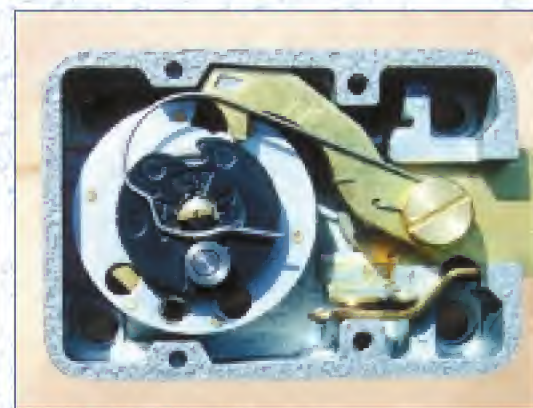
1. Ilco 683 Group 2M with front reading dial and ring.



A. Exploded view of Ilco's 683.

The manipulation testing includes using three teams of manipulators who test three samples instead of one team testing one sample. If two out of three samples pass, the test is considered a success.

The lock must pass a vibration test in which a sample is to be vibrated at an amplitude of 0.01 inch (0.25mm) at a frequency that is varied from 4 to 50 hertz in increments of 1 hertz until a resonant frequency is obtained. If no resonant frequency is obtained, the sample is to vibrate at 50 hertz for two hours.

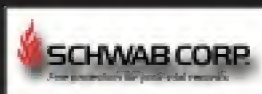


2. Correct installation of the drive cam. The flag on the spline key is turned inbound.

Underwriters Laboratories specifies that the date of manufacture by day, week, month or quarter, and the year is to be placed in a location that is visible after installation. The marking may be abbreviated or in an established or otherwise traceable code. A date code marking shall be such that it does not repeat in less than 20 years.

The exclusive Ilco Unican spring roller design retards and disguises consistent contact readings. (See photograph 2.) The way it works is, when the drop-in area or gate of the drive cam is aligned with the lever fence, the roller on the drive cam lifts the spring which in turn lifts the lever, preventing the lever nose from contacting the drive cam. In doing so, contact readings cannot be felt through the dial greatly reducing the possibility of manipulation.

There are a couple of things, which the safe technician should keep in mind when installing and servicing the Ilco 683. First, care must be taken to assure that the override spring be handled with care to prevent deformation and that it is placed in the



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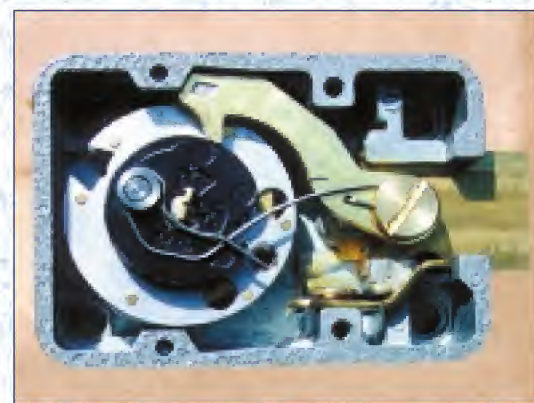
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proper position after installing the spline key. The spline key must be positioned so the flag of the key is over the spindle. *Photograph 2*, shows the proper position of the spline key and override spring.

In *photograph 3*, the override spring was improperly positioned. Proper positioning of the override spring is critical or a lock-out due to a mangled override spring can occur. (See *photograph 4*.)



3. Incorrect positioning of the override spring.



4. Lockout resulting from incorrect installation.

The model 683 requires the use of a four-wheel change key when setting a combination. This lock uses a four-wheel cover (and cover screws) to give clearance for the override spring. Ilco also offers a model 684 which is a four-wheel lock that has achieved the UL rating of 2M. The model 684 owes its rating to close tolerances and stringent manufacturing quality standards.

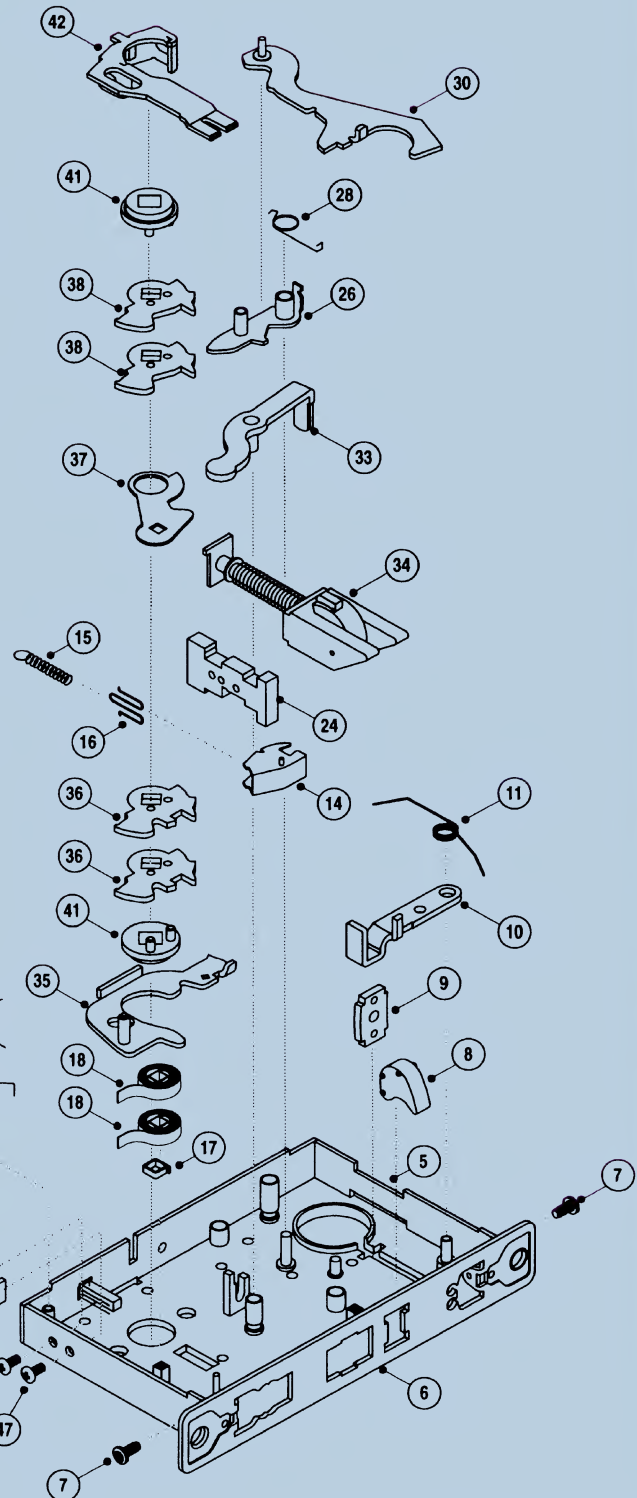
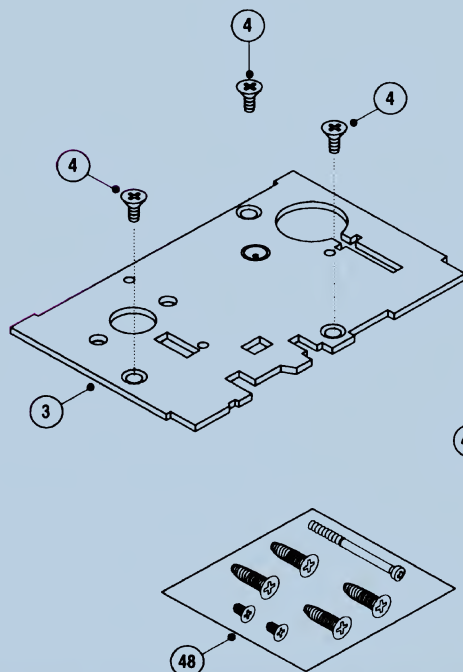
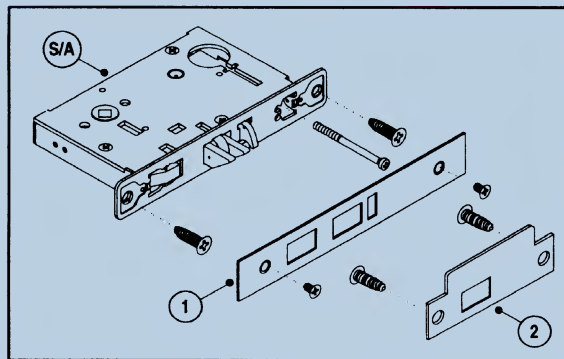
If you would like more information on the Model 683 or any of the other Ilco Unican products you may contact the author at (336) 725-1331 or FAX (336) 725-3269. **TNL**

EXPLODED VIEW

**Corbin
Russwin**



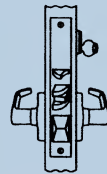
Lever Version — ML2251
Entrance or Office





Lever Version — ML2251

Entrance or Office

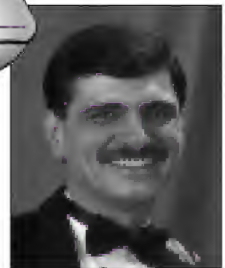


| Type Function | For 1 3/4" min. doors: | | For 1 3/8" doors: |
|------------------|------------------------|-------------|-------------------|
| | Standard | Master Ring | 1" Front |
| | ML2251 | MR Option | D138 Option |

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|-------|----------------|--|------|----------------|--|
| (S/A) | specify hand | Lever Lock Body (no cylinder or trim) for Standard D138 Option MR Option | (16) | 402F61-8*** | Seat Spring |
| | 433F07-8* | | (17) | 466F22-8 | Spring Spacer |
| | 433F17-8* | | (18) | 404F85-8*** | Lever Return Spring |
| | 500F07-8 | | (24) | 484F25-7 | Stop |
| (1) | specify finish | Armored Front for Standard D138 Option | (26) | 402F80-8* | Cylinder Latch Lever |
| | 402F32 | | (28) | 236F17-8** | Locking Lever Spring |
| | 402F36 | | (30) | 466F84-8* | Locking Lever |
| (2) | specify finish | (NOTE: for optional strikes see page 66) Strike for 1 3/4" door | (33) | 402F77-8* | Stop Lever |
| | 236L73M018 | | (34) | 402F68-7-625 | Latchbolt for Standard, High Security, D138 & MR Options M26 Option |
| (3) | 392F80-8* | Case Cap for Standard MR Option | | 402F68-7-3A | |
| | 441F96-8 | | (35) | 402F88-8* | Hub Lever |
| (4) | 425F86-8* | #8-32 x 3/8" Phillips Flat Head Undercut Machine Screw | (36) | 404F90-8*** | Locking Hub (Rollback) |
| (5) | 534F93-8* | Case & Front Sub Ass'y for Standard D138 Option MR Option | (37) | 601F55-8*** | Hub Spacer for Lever x Lever Trim Lever x Knob or Knob x Lever Trim |
| | 534F92-8* | | | 404F92-8*** | |
| | 535F09-8 | | (38) | 404F91-8*** | Non Locking Hub (Rollback) |
| (6) | 535F00-8* | Front for Standard D138 Option | (41) | 465F54-8*** | Hub & Pin Assembly |
| | 535F01-8* | | (42) | 582F16-8 | Retractor for Standard |
| (7) | 482F77-7 | #8-32 x 3/8" Phillips Truss Head Machine Screw | | 582F16-2 | MR & M26 Options |
| (8) | 402F93-2 625 | Auxiliary Latch, 5/16" for Standard | (45) | 404F86-8* | Hub Alignment Bracket |
| | 402F93-2-3A | M26 Option | (46) | 556F56-8 | Washer |
| (9) | 402F73-8* | Cylinder Set Screw Bracket | (47) | 421F25-8*** | #8-32 x 5/16" Phillips Truss Head Machine Screw |
| (10) | 426F47-8* | Auxiliary Latch Lever | (48) | specify finish | Mortise Lock Mounting Packet for Standard |
| (11) | 426F48-8** | Auxiliary Latch Lever Spring | | 429F41 | MR Option |
| (12) | 402F94-8** | Retractor Spring | | 488F09 | (See page 94 for packet descriptions) |
| (13) | 565F04-8*** | Hub Lever Spring | | | |
| (14) | 461F01-8*** | Toggle | | | |
| (15) | 402F63-8** | Toggle Spring | | | |

*For M26 Option, replace suffix "-8" with "-2".
 **For M26 Option, replace suffix "-8" with "-3".
 ***For M26 Option, replace suffix "-8" with "-7".

GM TECH LINE



by
**Thomas A.
Mazzone**

Each day I spend in the locksmith field, I am continually reminded of how rapidly technology is changing. So much that it is becoming increasingly difficult to keep up with all the information that finds its way to us. Trade publications such as The National Locksmith, service manuals, and technical bulletins, are now as important a tool in our arsenals as any other basic equipment.

This month's information has been gathered using the Tech Line Navigator system used in GM dealerships as well as the Tech Line Support system available to GM mechanics.

Tech Line Navigator is a computer system that stores all service bulletins available to GM car lines and can be listed according to bulletin number, complaint, campaign or current release.

The Tech Line system allows a GM technician to talk live to an engineer to help solve technical problems in the field. The technician is required to have all pertinent information available in order to get right to the source of the technician's problem. A dealer identification code is asked to identify the calling dealer's validity.

The following information pertains to frequently asked questions with respect to specific GM vehicles. The information is accurate as of this writing and has been validated using both of the above mentioned information retrieval systems.

PKIII Theft Deterrent System

Buick Park Avenue's Pass Key Three or PKIII as it is known, has a transponder system built into the vehicle's specialized electronics and the ignition key. Ten possible change keys can be entered into the system, in comparison to PASS Key or VATS systems where an unlimited amount of ignition keys can be made.

With only ten possible change keys allowed to be programmed into the vehicle's PKIII Module, it was thought that when an eleventh key was added, the PKIII Module would simply erase the first one entered and eliminate programmed keys in sequential order as the new keys are added. (See Photograph 1.)

In reference to a PKIII system accepting an eleventh possible transponder code, Buick Tech Line Engineering has verified that an additional code will not be accepted and the Security Lamp will illuminate after

the attempt. Diagnostic Trouble Code (DTC) B2375 will be set in the system and a Tech Two Scan Tool will be required to clear the code.

A complete system dump will be necessary using what is known as the Auto Learn Procedure. This will remove all current transponder values and the technician will now have an empty PKIII Module. This would be the same procedure used as in an "all keys lost" situation.

There is no way to know how



1. Only ten possible change keys can be programmed into the vehicle's PKIII Module.

many current keys are entered into the module without the use of a piece of Dealer Equipment known as a Tech Two Scanner. A full module can only be detected without the use of a scanner by the DTC setting a Security Lamp function on the Instrument Panel. This will tell the locksmith that the Auto Learn procedure is necessary. The locksmith can then inform his customer of the additional labor operation required to program the additional keys that he/she requires.

This system incorporates the use of Master and Valet keys. The Master operates all locks on the vehicle while the Valet is restricted from the trunk lock and the glove box lock. A functional Master key is required during all programming of additional keys.

Each time an additional key is programmed into the system, a valid Master or black plastic headed key with the coining PKIII,

is required for programming. The Master is rotated to the "On" position and the Security Lamp will illuminate and then cancel. Within ten seconds, the next key to be entered, either another Master or a Gray plastic headed key with PKIII coined on it, is inserted. The Gray headed keys are the Valet keys for this vehicle. The key is rotated to the "ON" position. The Security Lamp will then illuminate and cancel, indicating that this key has been accepted into the system. A Master key must be used each time prior to entering any additional keys.

If, while adding additional keys, the Security Lamp stays on, this tells the locksmith of a "full" PKIII Module. The Auto Learn Procedure must be performed. This will erase all current values existing in the module. Any existing customer keys can be entered again after the system is cleared. The Auto Learn Procedure is performed as follows:

1. Using a mechanically operating Master Key that does not have a value entered in the system of the vehicle you are working on, rotate the ignition to the "ON" position.
2. The Security Lamp will remain illuminated for the length of the Auto Learn Timer (ten minutes).
3. When the timer expires, the "Security Lamp" will cancel.
4. Rotate the key back to "LOCK" and remove the key.
5. Repeat the above steps two more times for a total of 30 minutes.
6. Insert the newly coded master key and rotate to the "ON" position. The SECURITY lamp should remain off indicating the new key has been accepted.

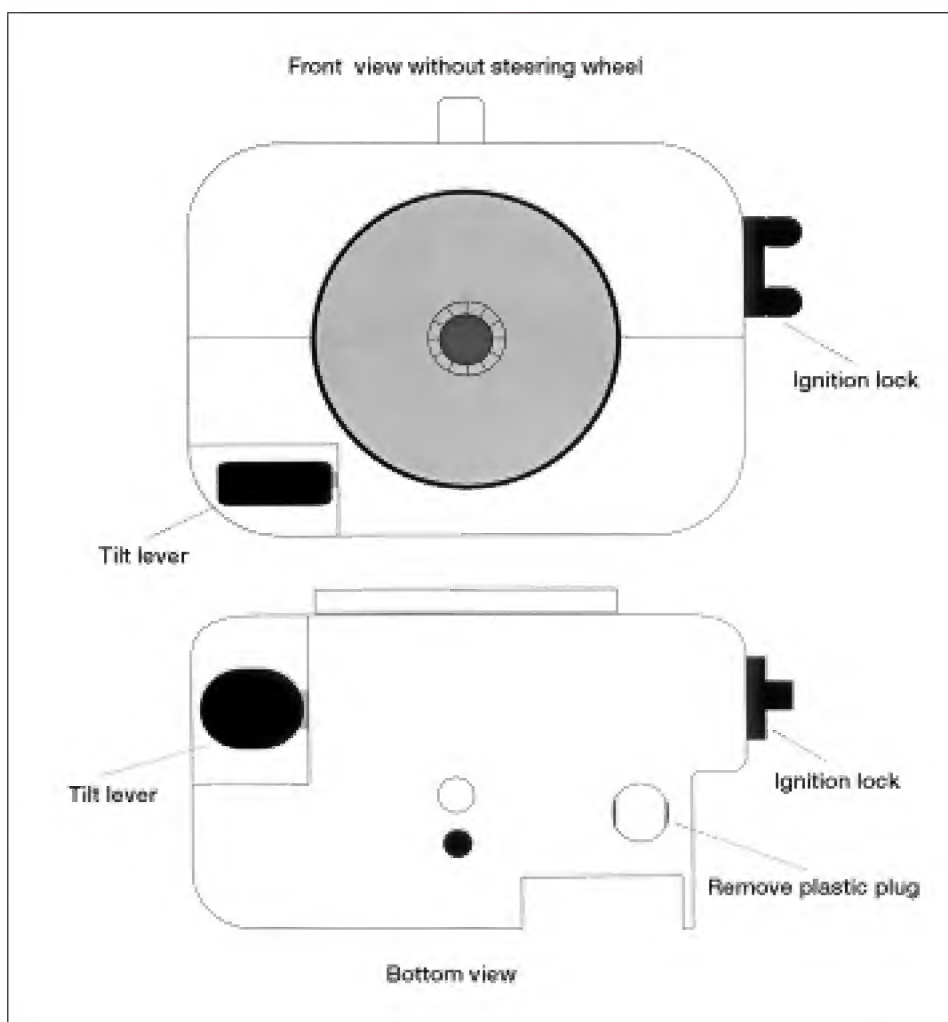
The system is now cleared of all existing transponder values with the exception of the coded Master used for programming. An equal number of Master or Valet keys is not necessary in this system. However, a working Master is always required during programming.

1997 S/T Series Trucks

The ever popular General Motors Sport Utility vehicles have captured a large share of the consumer market. Their presence in the market keeps them constantly on the service list for locksmiths.

An inherent characteristic with the 1997 Chevrolet and GMC S/T series trucks, (small Blazer/Jimmy with two or four wheel drive), has been the inability for the driver or service person to be able to remove the keys after the ignition lock has been rotated to Start during a dead battery or power loss situation. This affects the 1997 model only with Automatic Transmission and Floor Mounted Shift. Manual Transmission and Linear Shift, or Column Mounted Shift, are not affected.

When the driver discovers that he/she has a dead battery, the typical reaction would be to return to the key pull position, remove their keys, and call for service. With the 1997 S/T vehicle with floor mounted shift, this is not possible until power is restored or



A. On the bottom side of the lower steering column shroud, you will find a small round plug.

Continued from page 76

by depressing an override plunger which will be detailed later in this section.

Mounted on the ignition lock housing is an electrical component known as a Steering Column Electronic Park Lock Solenoid, GM Part #26046984. This solenoid is wired in to the BTSI circuit, or Brake Transmission Shift Interlock. The BTSI is designed to prevent the shifting of the shift lever out of Park unless the brake is depressed.

The adjustment of the Shift Cable is a critical adjustment for proper operation of the BTSI system. To do this, the technician must remove battery voltage and rotate the ignition lock to the OFF position. It is at this point that the critical adjustment is made. When battery voltage is removed, a plunger on the Electronic Park Lock Solenoid is released and engages an open area in the back of the lock housing where the ignition lock and timing gears mesh. This indexes the lock cylinder to be exactly at the off position during the shift cable adjustment. When battery voltage is reapplied, the plunger is drawn back into the housing and the lock can be rotated as normal. The problem is that the solenoid cannot determine whether power loss was intentional or not.

If the customer must remove the keys before battery voltage can be reapplied, as in a dead battery situation, he/she can do the following procedure. On the bottom side of the lower steering column shroud, you will find a small round plug with two small voids for a pocket screwdriver or knife blade in it. (See illustration A.) Remove this plug and using a pen or other thin round tool, push a small release plunger that is mounted on the solenoid. This will allow the cylinder to rotate back to the "LOCK" position, enabling the customer to remove their keys.

This series of vehicle also requires the locksmith to remove battery voltage during lock removal and replacement. To remove the ignition lock cylinder, the cylinder retainer must be depressed when the lock is in the "START" position. The Electronic Park Lock Solenoid cannot discern whether or not

voltage was intentionally or unintentionally removed. If the locksmith checks his work before restoring power and the lock cylinder does not return fully to lock, he/she may feel that a problem exists in the system that actually doesn't.

To complete checking his/her work, one would merely need to depress the override plunger that can now be easily seen because the locksmith would already have the two piece clam shell shroud off. The plunger will engage again if the lock cylinder is rotated past "OFF" with battery voltage disconnected. Its power is derived from the BTSI circuit and is always stored in the "held back" position unless power is lost.

This condition has raised numerous questions as to why the cylinder cannot be rotated to the OFF position. While the locksmith will never be required to do a shift cable adjustment, knowledge of how and why the system works can limit a call back complaint. Educating your customers is always an effective marketing tool.

1995-96 Chevrolet Camaro/Pontiac Firebird

Another hot selling series of vehicles for General Motors has been the F Body line which are the Chevrolet Camaro and the Pontiac Firebird. As with any vehicle that is widely sold, researching service bulletins for existing problems is much easier than for vehicles who don't share such a large portion of the market.

As with the vehicles in the previous section, the Camaro/Firebird have an ignition lock cylinder problem that can cause a headache for the locksmith. Call backs are costly, but armed with the right information, a locksmith can offer answers to his customers at the expense of time spent on the telephone with them.

Chevrolet Service Bulletin 67-71-40A denotes existing problems with the F Body line in cold weather where the customers complaint is difficulty in removing the ignition key when the vehicle is in the

"Park" position. The condition can be temporarily resolved when the shift lever is wiggled several times. This is also a way for the locksmith to prove to the customer, without column tear down, that the problem is preventable.

The park lock cable may bind due to the shifter's geometry, thereby not allowing the ignition cylinder to rotate freely back to the key pull position. The BTSI, or Brake Transmission Shift Interlock solenoid also may bind due to interference between its wiring connector and the ash tray or just simply to cold weather conditions.

With this information, the locksmith can advise the customer to contact the dealer and determine whether or not the vehicle is still covered under the factory warranty with respect to original owner and mileage guidelines.

The information gathered for this article was made available with the help of Matt Edmunston of Buick Motor Division and the engineers at Chevrolet Service Technology Group. TNL

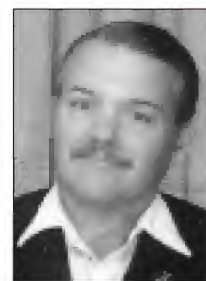
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BEGINNER'S CORNER

The Corbin Russwin 4451 Knob Lock



by
**Jim
Langston**



1. This grade 2 lock ideal for residential, apartment, motel and office applications.

The 4451 is an outstanding combination of value and performance. (See photograph 1.) This grade 2 lock ideal for residential, apartment, motel and office applications.

The lock features field reversibility handing; door thickness adjustments from 1-1/4 inch to 1-3/4 inch; brass or stainless steel 1/2 inch throw latchbolt; corrosion resistant materials and a one year warranty.

Available in the Global and Belmont style, several finishes are offered, including: 605 - Bright Brass, 612 - Satin Bronze, 613 - Dark Oxidized Satin Bronze, 629 - Bright Stainless Steel and 630 - Satin Stainless Steel.

I will cover how to take this lock apart when no key is available or when it



3. With the tabs straightened the chassis case can then be removed.

cannot be picked to remove the knob and cylinder.

To start disassembling the lock you must remove the inside knob and rose revealing the chassis. Bend the retaining tabs securing the chassis case with a pair of needle nose pliers or pry pliers. (See photograph 2.)

With the tabs straightened the



2. Bend the retaining tabs securing the chassis case with a pair of needle nose pliers.



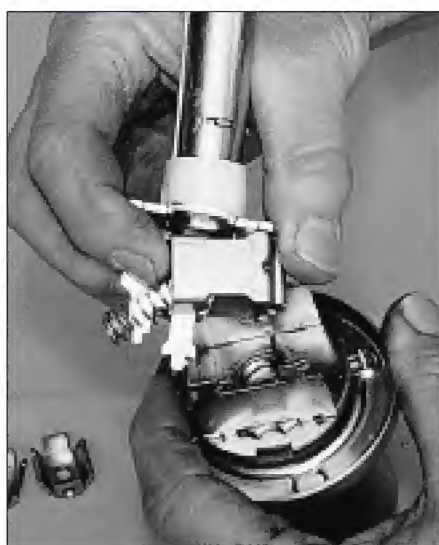
4. With the chassis case removed you will find two screw retainer blocks.

chassis case can then be removed. (See photograph 3.)

With the chassis case removed you will find two screw retainer blocks. One of the two can be seen in photograph 4. Both screw retainers



5. You will need to bend the two retaining tabs that secure the chassis cap.



6. Remove the spindle & hub assembly, retractor assembly and springs.



7. Remove the actuator latch retractor.



8. You can now see the outside knob tailpiece against the knob retainer.



9. Use a pair of needle nose pliers to turn the tailpiece sideways.



10. With the tailpiece turned sideways you can push in on the retainer and remove the knob.

will need to be set aside for replacement later.


At this point you will need to bend the two retaining tabs that secure the chassis cap assembly outward on one side of the lock. (See photograph 5), It is not necessary to bend out the tabs on both sides. When bending the tab be careful not to bend them too far.

Now you can remove the spindle & hub assembly, retractor assembly and springs from the lock as shown in photograph 6. I usually push in on the slide with my thumb and then lift it off very gently.

Now remove the actuator (latch retractor) as seen in photograph 7.

You can now see the outside knob tailpiece against the knob retainer. (See photograph 8). Use a pair of needle nose pliers to turn the tailpiece sideways as shown in photograph 9. With the tailpiece turned sideways you can push in on the retainer and remove the knob for rekeying. (See photograph 10.)

To reassemble, just reverse the order that you took it apart. The most difficult part about reassembling the lock is installing the spindle & hub assembly.

Point To Ponder: The best way to escape a problem is to solve it. 



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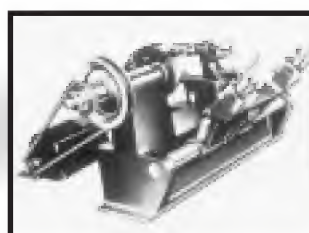
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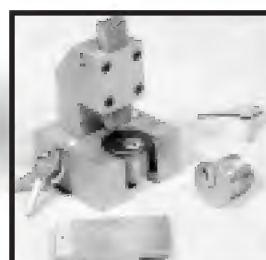
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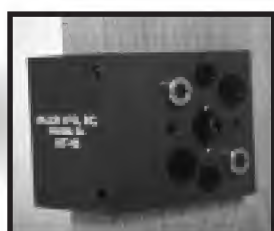
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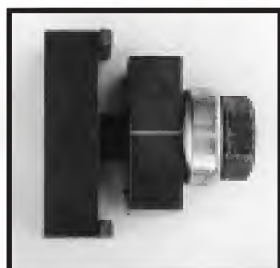
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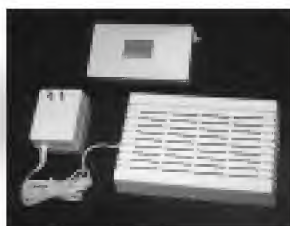
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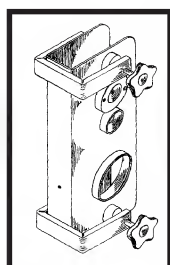
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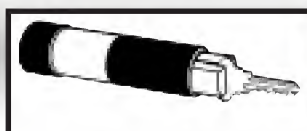
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Jakubowski



**ALL LOCK KWIKIT
WINNER:
Opening the
Dreaded BMW
Deadlock**

Most articles and tips that I read seem to be of the opinion that you cannot open a deadlocked BMW without having a key, etc. Rubbish!

Following is a simple method of opening a BMW with an engaged deadlock and no available key.

First locate the bonnet (hood, if you prefer) emergency release catch. This catch is located approximately four inches to the right of the center of the grill. (See *illustration A.*) At this point you should see a small hole which is partially blocked. Insert a screwdriver in this hole and twist. The bonnet should open.

On some models, this hole is visible through the grill and on other models, you need to unscrew the bottom of the grill and gently pull it outward to gain access to the hole.

Next take a piece of wire and connect the battery's positive terminal to the coil's positive side (it should be marked 15) and the dashboard lights will light up. At this point, the car now thinks the ignition is on and the dead lock (electrical)

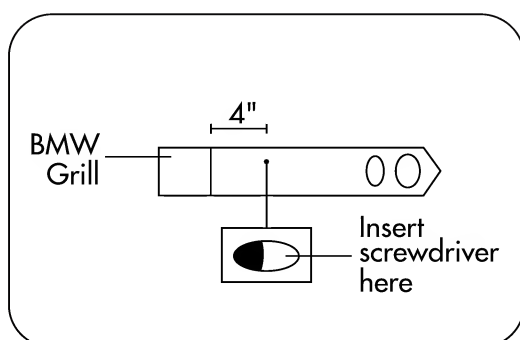


Illustration A.

mechanism is switched off in the driver's door.

Now simply insert your wedge between the glass and the door and pull the central locking relay upwards and the door will open. I do believe that the American Models still have buttons that can be hooked, so you may be able to just pull the button up.

D. Nash
England

A Few Words From J ake...

Recently a tip contributor inquired as to why I did not inform them if I was unable to print their tip. I thought there might be others out there who felt the same way, therefore, I decided to answer the question in this column.

First, I want to address the issue of why a tip does not get printed. The reasons are as varied as the tips and tipsters that send them. A similar tip may have recently been published, or the tip may not, in my judgment, constitute a bonafide usable tip. I may already have a similar tip in the pipeline waiting for publication, or it may be that I didn't have the space or that there were other tips that I wanted to recognize that particular month. One final reason may be that the tipster did not include a physical address.

As to why I don't write each tipster about the status of their tip; that's an easy question to answer. It's just never been done. Traditionally, in the publishing industry, items like the tips you folks send me are not used, they're not returned (check out a Reader's Digest for the terms governing submissions to various departments). Even when you send a lengthy manuscript to a publisher, it's not returned unless it has been accompanied by an envelope of sufficient size with return postage and a request for return.

Greg Mango and I had a meeting about this and decided that we were going to break with tradition. From now on your tip will be returned to you with a brief note stating why it will not be used. If you send me a tip and it's returned to you, don't take it personally, make the corrections that we suggest or submit another tip. Your next tip may end up gracing these pages and you'll win a great prize.

Y'all heah what I'm sayin', now?



by **J ake
Jakubowski**



**AERO LOCK TRY-
OUT KEY SET
WINNER:
Linkage Clip
Replacements**

I was called to open a Dodge Caravan with a sliding side door that would not open. Once inside the vehicle, I noticed that the back latch was not moving when the

handle was moved to open the car. I removed the door panel and found that the rod that was supposed to be attached to the door handle and the back latch was disconnected. Also, the plastic clip that held the rod to the front door handle lock was broken. I went to the local Chrysler Dealership's parts department to purchase a replacement clip and was told that the clip is not available as a single item and you have to buy the

whole lock assembly (for \$52.00!).

I did not buy the Chrysler repair package. Instead I went to a local auto parts store and bought a box of assorted sized metal linkage clips for carburetor linkages. I paid \$1.98 for the entire box. I then quickly found one that would hold the rod to the lock assembly. I now keep these spare clips in my truck at all times.

George Steiner
Nevada



**STRATTEC RACING
JACKET WINNER:
GM Ignition
Removal Tool**

As you know, General Motors has designed a new type of ignition cylinder that is mounted in the dash on the 1998 models. Here is a probe you can make that will enable you to quickly remove this type of ignition.

First obtain a piece of stiff eighth inch rod about eight inches long. Bend one end of the rod a quarter of an inch to about a sixty degree angle. Next measure 2-1/2 inches from the other end of the rod and

mark that measurement with a permanent marker or scribe. That mark will tell you how far to insert the tool. (See photograph 1.)



Photograph 1.



Photograph 2.

To use the tool, remove the plastic trim from around the radio (it just snaps off), then insert the probe at an angle to depress the retainer and remove the ignition. (See photograph 2.)

Frank Markisello
New York



**HPC PISTOL PICK
WINNER:
Saw Blade
Extractor**

Illustration B, shows a very simple, inexpensive and effective

Grind down Coping Saw blade

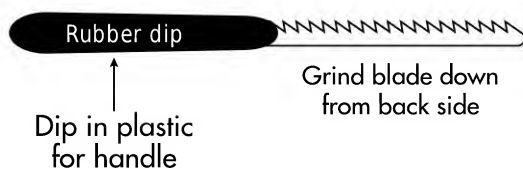


Illustration B.

key extractor that I made from a fine tooth coping saw blade. To make the extractor, I simply ground the coping saw blade down as shown and covered one end with plastic (the dip kind you can buy in hardware stores).

It is extremely durable and grabs a key tightly. Just slide it down the side of a key or when possible, twist it slightly so the teeth turn toward the key's blade and pull.

Although I am definitely biased, I don't think there's a better key extractor anywhere.

Howard Fulks
Oregon

[Editor's Note: Howard sent me one of his extractors and I gave it a try on a couple of broken keys. I have to agree that it does the job well, is simple to make and costs next-to-nothing. Thanks for the new tool for my picking kit, Howard.]



**SARGENT AND
GREENLEAF
WINNER:
Control Key
Cutting Chart**

Here is a quick chart for finding the cuts of a control key for an interchangeable core cylinder. Using this chart, you can cut a control key after disassembling an

I-core cylinder and reading the driver (top) pins. Once you have their measurements, you can refer to this chart and cut a control key for that particular system.

| Top Pin | Control Key Cut | Depth in thousandths |
|---------|-----------------|----------------------|
| .050 | 9 | .205 |
| .062 | 8 | .218 |
| .075 | 7 | .230 |
| .087 | 6 | .243 |
| .100 | 5 | .255 |
| .112 | 4 | .268 |
| .125 | 3 | .280 |
| .137 | 2 | .293 |
| .150 | 1 | .305 |
| .162 | 0 | .318 |

Of course, you have to have a cylinder or plug to be able to dump the pins in order to read them. Otherwise, you have to remove a core from a lock by either drilling or picking.

Billy D. Jackson
Texas

[Editor's Note: Billy's tip is valid and if you do any I-core work, you should make a copy of this chart if you're not already familiar with the information. Keep in mind that the chart refers only to Best, Falcon, etc. A-2 systems. A-3 and A-4 systems would differ. More information about Interchangeable core servicing can be found in The National Locksmiths Guide To: Interchangeable Core Cylinders.]



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**A-1 SECURITY
PRODUCTS WINNER:
Mercedes Trunk
Opening**

I believe I have found an easier way to open a locked trunk (with the keys inside, of course) on older Mercedes. I was taught to unlock the driver's side door which in turn would enable the vacuum locking system to unlock the trunk. However, I have found that on some of the older models the vacuum hoses deteriorate and leak air, thus preventing the trunk lock from releasing. Because of this I have devised a way of manipulating the trunk's lock linkage from the outside of the trunk.

First, I made a tool from an old bicycle wheel spoke. As you can see from the illustration, I bent one end of the spoke to a ninety degree angle leaving an L about 1-1/2 inches long. On the other end, I made a loop to act as a handle. (See illustration C.)

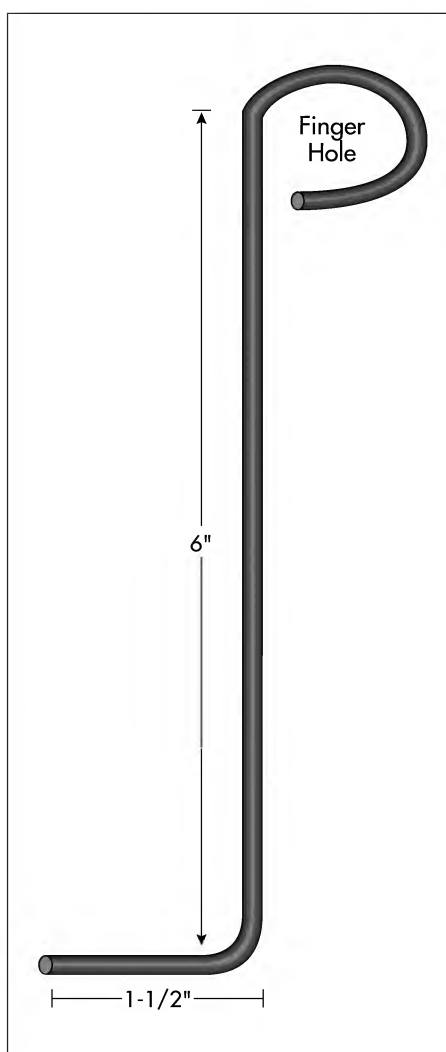


Illustration C.

To open a Mercedes trunk with this tool, take the top left screw out of the license plate holder, insert the bend through the screw hole. Once the tool is inside the trunk, turn the tool vertically, then pull back on the tool until you feel it contact the linkage. When you feel the a springiness contact turn the tool clockwise. You will feel a slight resistance, but if you keep turning, the tool will move the linkage to the unlocked position and allow the trunk to open.

So far, I've only tried this on the 1980 300D, however, I'm sure it will work on any Mercedes that has the same type of locking mechanism and license plate holder configuration as the 1980 300D.

John Stair
Georgia



**Ilco Key Blanks
(100 Blanks):
Adams-Rite Screw
Locator**

I've frequently become frustrated when re-installing Adams-Rite locks in aluminum framed doors. Trying to keep the springs in place while at the same time trying to align the screw and get it started have often proven difficult.

I have found an easier way to do this. I place the lock with the screws holding the springs into the door cavity and hold pressure against the lock. I can then pull out the top screw, and use a small #1 Phillips head screw driver to find the threaded hole and align the lock. I just insert the screwdriver where the screw should be, wiggle the screwdriver around until I locate the hole, hold the lock steady and reinsert the screw, giving it a few turns to start it. I repeat the process for the bottom screw.

I hope this method relieves another locksmiths frustrations with this type of lock as well as it has mine.

Michael Zurawski
Wisconsin



**PRO-LOK®
Professional Pick Set
Winner:
Wafer Lock
Reading Tool**

Illustration D, shows how I made a wafer lock reading tool from a 2" safety pin and a five inch length of dental floss. The nice thing about this tool is that safety pins are cheap and easily obtainable from a variety of sources.

To make this tool, simply cut the head off the safety pin as shown and tie the dental floss to the safety pin through the hole at the one end.

To use, just compress both legs of the tool and insert it into the keyway. Release the pressure and turn the tool slightly, allowing the legs to expand against the tops and bottoms of the wafers. Next light the keyway and begin to slowly withdraw the reader by pulling on the dental floss. As the tool releases each wafer, you can determine its relative position in the keyway and deduce its value.

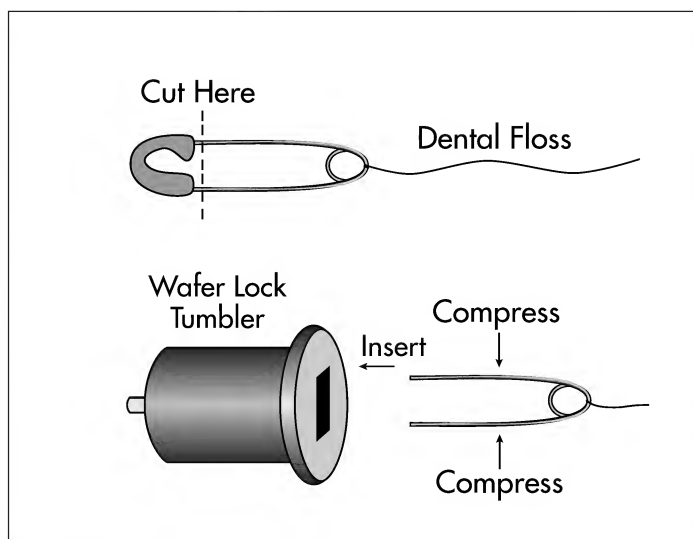


Illustration D.

This tool also holds open the dust covers on automotive locks when trying to decode the wafers and because it is small allows you to see into the keyway very easily.

Wisan Khunamat
Florida



**Tech Train Training
Video Winner:
Trunk Jumping**

I was asked to open the trunk of a Cadillac Allante. I planned to do this by pulling the glove box lock to determine the four

Continued from page 86

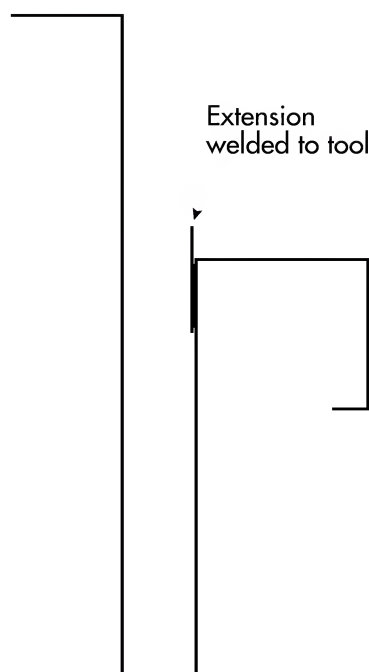


Illustration E.

cuts the lock would give me, and then I would progression the other two.

When I arrived, I learned that the Allante had double-sided locks and there was not a trunk release button inside the glove box. The customer told me the button was in the console, between the front

seats. When I opened the console, I found that the trunk release button and the cigarette lighter are on the same panel.

To open the trunk, I pulled the wire on the trunk release closest to the driver's side and unplugged the hot wire on the cigarette lighter. Using a six inch length of wire as a "jumper," I inserted one end into the plug from the trunk release and one end into the plug from the cigarette lighter. The trunk opened immediately.

Ken Meade
Alabama

[Editor's Note: Ken, thanks for the tip. However, I need to caution my tipsters and readers that "jumping" terminals on trunk buttons and cigarette lighters to open trunks can cause electrical problems in many of the late model vehicles. If this method seems to be the only viable means of entry to a locked trunk, use it with extreme caution. If anything were to go awry with the electronics of the vehicle, the manufacturer could, conceivably refuse to honor the vehicle's warranty! Proceed with caution.]



*Sieeking Products
GM E-Z Wheel Puller
Winner:
Window Spreader*

Sometimes, when using my under-the-window tool, I have had trouble getting it to pass between the glass and the inside weather stripping. This has held particularly true on those later model vehicles where the window and trim seem to fit so tightly.

Illustration E, shows how, by adding a small piece of 3/16" rod to my under-the-window tool, and rounding the end off to a ball-type point, I have made an otherwise trying job much easier. The tip that I welded to the tool, easily separates the glass and weather stripping and allows the rest of the tool to slide inside the car.

Cy Robbins
Delaware



Strike Slotter

Major
Manufacturing
Products Winner:

Recently, I had to install a large number of cam locks on wooden cabinets at a health care facility. One of the more time consuming steps with this job was cutting the strike

slot for the cam to set into. In the past, I've either routed a groove, or drilled a series of closely spaced holes and then carefully cleaned out the slot with a chisel.

Because of the size of this job and wanting to find an easier way, I looked around for an alternative. I found the neatest, fastest, and most accurate way to cut these slots was with what is known as a "Biscuit Cutter." A biscuit cutter is a slot cutting tool that woodworkers use to create a slot to put a wooden biscuit in to join two pieces of wood together.

With this tool, I was able to accurately set the depth of cut and distance back from the edge of the cabinet's mullion so repeat cuts were a real breeze. Biscuit cutters are sold at Sears, Lowes, Home Depot and anyplace woodworking tools are available.

Bill Cochran
Wisconsin



*Slide Locks "Z" Tool
Opening Set Winner:
Rubber Tube Arm
Saver*

When working on the inside of a car door panel, it is not unusual to come away with a ripped shirt sleeve or a scratched arm or hand. The most frequent cause of this damage is from the roughness of the opening in the door's inner panel. Not only can the metal along this edge be rough, it is often sharp.

To prevent damaging my clothing and skin, I take a length of windshield wiper vacuum hose, split the hose lengthwise and place this over the edge of the metal where I'm going to be working. It works well and has saved me many a cut or scrape. The only problem I have with it is forgetting to remove it before I replace the trim panel.

Mel Olmstead
Canada



*The Sieeking Auto
Key Guide Winner:
Club
Impressioning Aid*

I have had to impression a number of Club steering wheel lock keys. Each has posed a challenge to my impressioning skills. To make the job easier, I have begun using a cut Club key to mark the spaces on uncut blanks. Pre-marking each

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blank this way shows me where to file.

Keep in mind that cuts 1-3-5 are on one side of the key and cuts 2-4-6 are on the other side. However, to keep the key a true convenience key, you have to transfer the even cuts to the odd side and odd cuts to the even side. Also, I notched one side of the key blank's head to keep the "up" side clear.

Once I marked the spaces on the blank I wanted to impression, I found the marks very easy to read.

Jerry Dionisio
Colorado



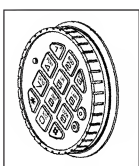
**Jet Key Blanks Winner
(50 Blanks):
International
Opening**

When called to open a 1998 International I tried the window first, but with the weather stripping so tight

and frozen to boot, I went to the vent window. No luck there either. I also tried for the vertical rod, which by the way, is up when locked and down when unlocked on this trunk. Picking didn't work either.

About to give up, I noticed a grommet device that attached the mirror lights on each side of the trunk. I unplugged the wire, pried off the grommet, reached in with a pair of needle nosed pliers, pulled down on the linkage and unlocked the door.

L.J. Lovoie
Nova Scotia



**LaGard Winner:
Lighter Screwdriver**

I found a tool that that comes in very handy when working in dark hallways, vestibules and poorly lighted doorways. *Illustration F*, shows this lighted, multi-bit screwdriver that comes with an extension magnetic pick-up on it! The double lights — one on each side of the shaft — brightly illuminate the work area.

I obtained the tool from a company called Tool King (1-303-922-5553 or e-mail: www.toolking.com). They are nationally distributed through Performance Tool, PO Box 24086, Seattle WA 98124.

Dennis Harmon
Colorado

[Editor's Note: Dennis sent me a sample of the lighted screwdriver. It is everything he says it is. If a lot of you folks, like me, are finding that your bifocals are not 'focalling', you definitely need one of these in your tool kit.]



**High Tech Tools
Winner:
One Way Or
The Other**

I cut a lot of duplicate keys for the car dealers that I work for. They like to have them around in case of repossession, or to supply a careless customer with a new key when the originals are lost. However, the dealers are reluctant to pay for VATS keys and yet, they want a duplicate.

What I do is cut them a duplicate on a non-VATS blank and stamp the resistor value on the blank and give that to the dealer. When they find they need a key for that particular vehicle, they bring the key to me, I cut it on a correct VATS blank, and they gladly pay my fee.

Brad MacKenzie
Ohio

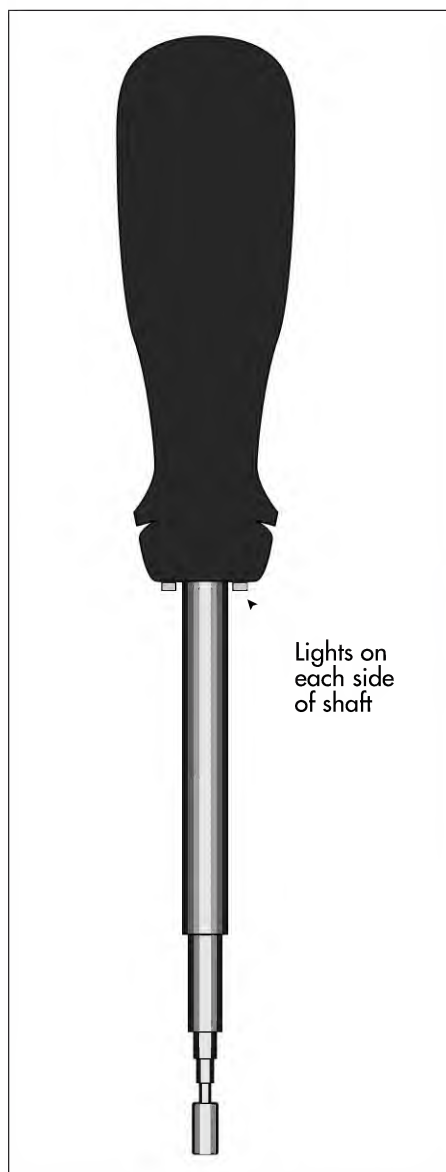


Illustration F.

SRI
SECURITY
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SRI and
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Productions
are the
automotive
specialists -
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source for
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It takes a lot of brass to be this good!

Ilco Unican Corp.

by Jake Jakubowski

One of the benefits of being the Technical Editor for The National Locksmith, is that every now and then, I get to write about a person or company, that has been influential in the growth and direction that the locksmith industry has taken over the last fifty years or so.

Recently, I was able to do both, when Don Wright spent a morning giving me a tour of the Ilco-Unican factory in Rocky Mount, North Carolina. Don has been with Ilco for fifty years. During that time, he has been involved in the practical nuts and bolts operations, sales and management of Ilco. Although he is officially retired - and a director of the company - he still works a couple of days a week on a consultant basis.

From Ilco's earliest days as the Nashua Lock Company in 1832 to the Independent Lock Company in 1917, Ilco products have enjoyed wide recognition. Fifty years ago seventeen year-old Aaron Fish, Chairman/CEO began peddling key blanks from his

bicycle, building what ultimately became the largest key manufacturer in the world.

During that course in time, however, there have been some lean years. In 1967 what was destined to become the UNICAN Group, the company was down to three employees and annual sales of about \$180,000. Fortunately for the Independent Lock Company, 1967 was the year Aaron Fish energetically applied his ideas to a venerable but faltering company. Since 1967 Ilco has grown steadily through a focused, aggressive program of internal expansion and external acquisitions.

Even without last year's assimilation of Silca, Ilco-Unican had become the largest single manufacturer of O.E.M. and aftermarket key blanks and key machines. Along the way, they have become a major player in the manufacturing of brass mortise, rim and key-in-knob cylinders, auxiliary locks, mechanical locks, electronic safe locks, time locks, key machine production, and

access control devices such as Marlock.

Employing over 2,000 people worldwide, Ilco's Rocky Mount facility, alone, employs 750 people and produces some two million key blanks a day. Another 450 are employed in Winston-Salem, North Carolina where Ilco manufactures the Simplex line of safe locks and most of the plug-in circuitry for their electronic products. Add to those numbers the work force of two plants in Canada and Silca's holdings in Italy.

Key blanks, key machines, rim cylinders, mortise cylinders and key-in-knob cylinders and electronic and mechanical access products, are only part of the Ilco story. True, that may be the part that is of primary interest to locksmiths, but Ilco's impact goes well beyond our industry. Ilco manufactures Original Equipment Manufacturers (O.E.M.) custom die cast products for a variety of clients in the consumer, automotive and communications markets. These products include: valves, fittings, circuit boards, communication frame works and self-service automated check-in terminals for the hospitality industry. Other E.O.M. products range from automatic ticket dispensing equipment to custom brass castings and locks for the furniture industry. They are all part of From the smelting of the brass, to the finished key blank, lockset



1. Ilco has an in house foundry to produce brass to its own alloy specifications.



2. A single key stamping machine can stamp thousands of key blanks a day.

Continued from page 90

or access control device, Ilco does the majority of operations in-house. Additionally, Ilco even designs and builds many of the machines that are needed to manufacture the wide array of products they produce each year.

When the Canadian telephone company needed a push-button lock, Ilco developed the Simplex. An instant success, the Simplex line became Ilco's "KEY" to keyless, mechanical access control. From the first push-button lock for the Canadian telephone company, Ilco has gone on to become the world-wide leader in mechanical push-button access control. The Simplex line of heavy-duty push-button locks can be found on doors in governmental agencies, airports, hospitals, pizza parlors, schools and industry. Residential versions of that same technology are becoming highly popular as well.

That same response to the customers need that led to the development of the Simplex line guided Ilco into the manufacture of Electronic Access Controls (EAC).

Ilco-Unican produces and markets high-security, high-tech EACs from stand-alone door locks to centralized, multi-site security systems. Teams of software and mechanical engineers are constantly developing new versions of these products to meet the challenges

generated by rapidly changing security needs across the spectrum of governmental, industrial, commercial, institutional and, yes, even residential requirements.

The EAC technology is, as we are well aware, spilling over into the automotive arena. Ilco-Unican is already deep into the O.E.M. and aftermarket production of transponder keys to meet the demands of transponder technology from the international marketplace. And, in typical "do-it-yourself" fashion, Ilco-Unican designed and built the specialized equipment they needed to mold the key head and delicately insert the transponder on high speed production lines. And, of course, that transponder key head is molded to a key blank that was stamped from a strip of brass that was founded on-site.

Since electronics in all shapes and configurations are playing a larger role in the locksmithing industry, Ilco has responded to that need by offering swipe card technology for hotels and motels, PC based security and now, an electronic code machine, the ECM-100. The ECM-100 is a fully capable code machine with over 500 of the most popular key codes, including direct and indirect codes, manufacturer's names, and lists, flats and other pertinent information pre-programmed into the ECM's database. The database will be fully upgradable by PC or laptop as newer software becomes available!

The broad product diversity that I encountered at Ilco was truly astounding. Even more amazing was to watch the stamping machines, milling machines, cutters, grinders and polishing machines turn out millions of key blanks a day, all held to extremely tight tolerances by quality control checks that measure three critical areas on each blank inspected.

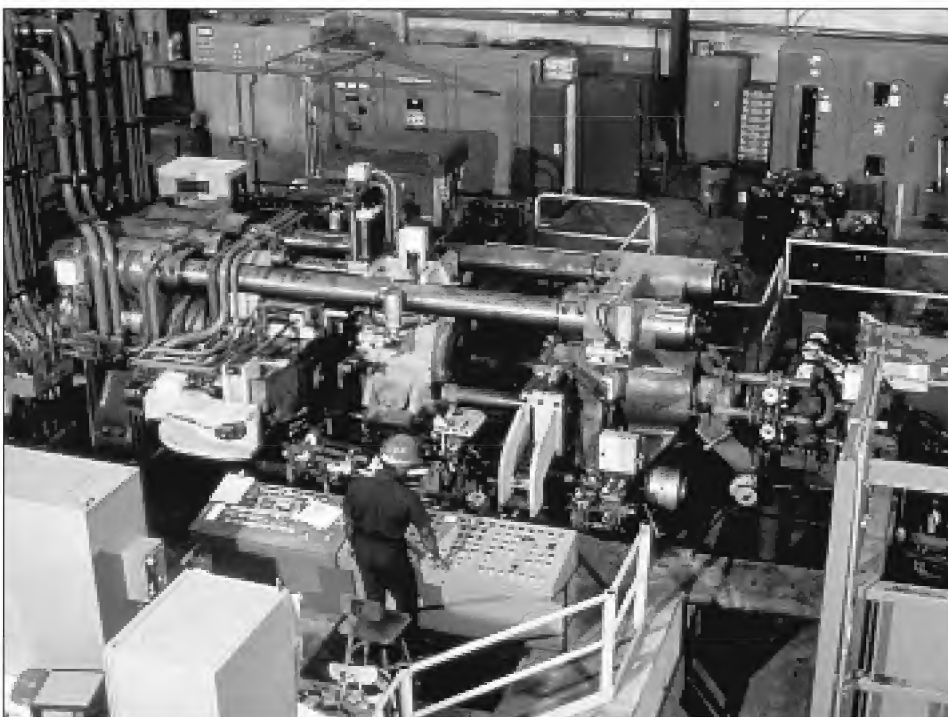
As I toured the plant, I saw that same dedication to quality control manifested in the manufacture of pins, cylinders, plugs and a myriad of other products being produced. From the milling machines that make the dies for corporate or private label logos, to the CAD operations, checks and double checks were the norm.

Where will Ilco go from there? Obviously, into the future with new products and services. To remain a leader in the markets that Ilco services (Canada, The United States, Mexico, The United Kingdom, France, Italy, Spain, South Africa, Australia and Japan) Ilco will have to subject itself to an ongoing commitment to continuous product development.

Additionally, they will have to stay ahead of the more innovative concepts and ideas that are on the technological horizon of the locksmith industry as well as the other markets Ilco services. Somehow, I have the impression that they will. **TNL**



3. A roll of brass is being stamped producing the key blank that must then be milled and polished.



4. Behind the controls of state of the art machinery, a worker oversees the operation.

Reed Report

Q. I am still having trouble impressing keys and have noticed that you put on impressing seminars. When will you be in my area? Is this an in-depth seminar?

A. No, this is not an in-depth seminar. Hank Spicer is probably the best known impression man in the industry, and has taught it for many years. We interviewed Hank and asked him the biggest mistakes made by locksmiths doing impressing, and put together a one hour seminar on how to overcome these mistakes. We call the seminar "Impressing, the Hank Spicer Method." We have fun doing it, and hopefully locksmiths pick up a few tips to help them along. Notice the seminars at the end of this column, and pick out the one that is closest to you. I believe in your case it will be Memphis, TN.

Q. Do you recommend using a pick gun?

A. Yes. Many times it will make a lock much easier to pick. The biggest mistake made with the pick gun is not releasing pressure on the tension wrench after every six or seven clicks of the gun.

Q. When picking locks, what is needed most when using the "rake method"?

A. Luck. Seriously, locksmith who use ONLY the rake method have never taken time to use the feel method. Learn them both and at times you can combine the two. The expert on picking is Gerry Finch. He is to picking what Hank Spicer is to impressing. Thank goodness both of these gentlemen have written books demonstrating their methods. In Hank Spicer's case I use the word "gentleman" loosely.

Q. What is an incidental shear line in masterkeying?

A. Masterkeying is a method of establishing a condition inside a lock cylinder so that more than one dissimilar cut key can be used to operate the lock. Several locks may be operated by their own respective different keys, referred to as change keys (CK), while they may also be operated by one key that is common to all of the locks of the group, designated as the master key (MK).



Yours For Better Security,

Bill Reed
Bill Reed

Scatter Shooting while remembering ... Max Kotler

Proper master keying provides convenience to controlled access. The more complex a master key system becomes, the less security it will provide. The extent of security a master key system provides is in direct ratio to the complexity of the master key system. Master key systems should be designed in the simplest manner and to the lowest keying level possible to meet the assigned requirements of the job.

The master keyed condition is accomplished in a pin tumbler lock cylinder by placing a master pin between the bottom pin and top pin in one or more pin chambers. Placing a master pin in one pin chamber causes that pin set to have two different shear lines. One shear line will be aligned by the change key and the second will be aligned by the master key.

If a master pin is placed in a second pin chamber, that pin chamber will also have two distinctly different shear lines. A cylinder with one master pin in two different pin chambers will actually have four different shear lines, or configurations of keys that may be cut to operate the cylinder.

Incidentally, there are two shear lines in addition to the two shear lines that are recognized for use with the change key and the master key.

Since it was the intent to have two different shear lines, there are two shear lines in the cylinder that were unintended. The unintended shear lines are referred to as incidental shear lines, as long as they are present in the cylinder without recognition and application within the master key system. If a key was inadvertently cut to the combination of one of these shear lines, it would then become an incidental master key.

TNL

If you have a question for Bill Reed, would like to talk to him concerning anything in this column, or want to attend a Bill Reed seminar at one of the locations listed below, you may contact Bill directly on his toll free number at: (888) 801-2003.

| | | | |
|-----------|-------------------|---------|--------------------|
| J July 18 | Columbia, SC | Oct. 17 | Omaha, NE |
| Aug. 1 | Kansas City, MO | Nov. 7 | Salt Lake City, UT |
| Aug. 15 | Memphis, TN | Nov. 21 | Tulsa, OK |
| Sept. 26 | New Braunfels, TX | Dec. 5 | Orlando, FL |
| Oct. 11 | Chicago, IL | | |

BUSINESS BRIEFS

Mas-Hamilton Granted MANA Membership

Mas-Hamilton group has been named to membership in the prestigious Manufacturers' Agents National Association (MANA).

MANA is the world's largest organization of independent manufacturers; agencies, nearly 7,000 strong, and has a sizable associate membership of manufacturers.

Locknetics Revised Catalogue

Locknetics Security Engineering has published a revised, 24 page product line brochure.



The Intelligent by Design catalog includes both electronic and electric access control, electromagnetic locks, electromechanical strikes, electronic exit devices, electrified exit bars, keypads, controllers, power supplies, software and more.

For more information contact Locknetics at 860-584-9158 or fax 860-584-2136.

New Product from JET

You can now duplicate as many Cadillac Seville keys as your customer wants beyond the manufacturers 10 key restriction. Jet Hardware introduces their new GM 99-N-PHT Transponder key blank. When coupled with their new ETD-1 Electronic Decoder and Duplicator, locksmiths can make as many copies as the customer wants. Jet is now offering 30 Transponder keys with the purchase of the ETD-1 including 5 of the new GM 99-N-PHT blanks.

For further information contact: Jet Hardware Mfg. Corp., 800 Hinsdale Street, Brooklyn, NY 11207

BWD VATS Certification

BWD VATS Certification courses offer the locksmith the opportunity to take advantage of the 20+ million VATS equipped vehicles on the road today by offering training in all facets of VATS service. Included in the class are: certified training on airbags, VATS lock replacement, decoding, key generation and VATS system diagnostics.

For a schedule of classes call BWD at 800-647-4926, or visit the BWD web site at www.alllock.com.

Safemasters Acquires Indiana Lock & Safe

Safemasters Co., Inc. acquired the assets of Indiana Lock & Safe Co. Inc. The owner of Indiana Lock & Safe Co. Inc., Doug Drummond, has joined Safemasters as their new Sales Manager for the Indianapolis market.

Safemasters can be contacted on the Internet at www.safemasters.com or at, 2700 Garfield Avenue, Suite 200, Silver Spring, Maryland 20910, Phone 301-608-9000.

PLS Stocking Lever Neutralizer

Professional Lock Suppliers (PLS) announced the availability of the new Lever Neutralizer tool in all of their seven warehouse locations.

The Lever Neutralizer is a new tool that removes the outside lever of a locked key-in-lever set. Most levers can be removed in thirty seconds without damage to the lock.

For more information contact your PLS Distributor:

- H.E. Mitchell 800-626-5625
- R & H Wholesale 800-367-5625
- Maziuk & Co., Inc. 800-777-5945

- Locks Co. 800-288-0801
- McDonald Dash 800-238-7541
- E.L. Reinhart 800-328-1311

Securiton BPS Class 2 Series Receives Honors

Securiton Magnalock Corporation announced that its BPS Class II Series of filtered and regulated DC battery charging power supplies was selected for two top product honors, in two different shows, at the Security Industry Association's New Product Showcase.



For more information contact Securiton at 800-MAG-LOCK.

Ace Lock & Security Now Stocks:

Alarm Lock Systems-Trilogy DL3000 single door access control lock.

Framon - FRA-2001 computerized key machine.

Locknetics - CM5000 stand-alone micro-processor based mechanical locking system.

Securiton - Full line of Securiton products, including the Magnalock® line.

Master Lock's® Model 90DSPT gun lock.

For more information call: 1-800-ACE-LOCK; Fax 1-800-ACE-FAX4; or E-mail acelock@acelock.com.

DoorKing on the Web

DoorKing is happy to announce that the company now has a web site on the Internet. The Internet address is: www.doorking.com

The current web site offers a look at DoorKing, its products and services, and a NEWS page that will be updated on the latest products, services, and changes at DoorKing on a regular basis.

HES to Become a Member of the effeff Group

The effeff International GmbH, Auslandsbeteiligung, of Albstadt, Germany and Hanchett Entry Systems, Inc., of Phoenix, Arizona, USA are pleased to announce a merger of the two interests resulting in a new company to be located in Phoenix, Arizona known as HES, Inc. This new entity is a member of the effeff group, made up of manufacturing companies in Germany, Romania, France and China. Consistent with effeff's world wide philosophy, HES will eventually manufacture and market all the effeff and HES products sold in North America.

Rutherford Controls will remain the exclusive effeff general importer for North and

Central America. effeff and Rutherford Controls are currently exploring the possibility of a future strategic alliance. All business will be conducted the same as usual, with Rutherford selling their current effeff line and HES selling the HES line of electric strikes. There will be no disruptions to distribution.

By combining effeff's global strength and commitment to high quality manufacturing and HES' innovative approach to the design of electric strikes, a new company will emerge offering the industry standards, on a world wide basis, for the twenty-first century.

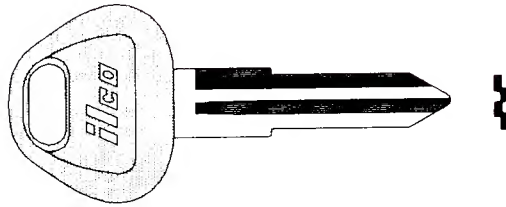
Michael A. Webb has been appointed President/CEO for HES while Leland J. Hanchett, Jr. will head the Engineering Design Group for the new company. **ENL**



KEY CODES

Nissan Y0001-8000, Part 1

Key Blanks:
Curtis: DA28
Iico: X124
Iico: EZ: DA28
Jet: DA28
Silca: DAT14



Number of Cuts: 8

M.A.C.S.: 2

Key Gauged: Shoulder

Cut to Cut Spacings: .085"

Cut Depth Increments: .020"

Notes: Key is double sided. Same cuts on both sides.

Spacings:

- 1 - .118
- 2 - .203
- 3 - .288
- 4 - .373
- 5 - .458
- 6 - .543
- 7 - .628
- 8 - .713

Depths:

- 1 = .276
- 2 = .256
- 3 = .236
- 4 = .216

HPC 1200CM
Code Card: XF67
Stop: Soulder

Framon:
Cuts Start at: .118
Spacing: .083
Block #: 5
Key Clamping Info:

Curtis:
Cam: DM-3
Carriage: DM-3C

A-1 Pack-A-Punch
PAK-NSK



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automotive locks and keys.***

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Nissan

Y0001-8000, Part 1

| | | | | | | | | | | | |
|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|
| Y0001 | 13244213 | Y0071 | 21221132 | Y0141 | 34431223 | Y0154 | 21134243 | Y0167 | 33433442 | Y0180 | 44211332 |
| Y0002 | 31334231 | Y0072 | 34233243 | Y0142 | 32334322 | Y0155 | 43423231 | Y0168 | 22421113 | Y0181 | 22311322 |
| Y0003 | 43242232 | Y0073 | 34243334 | Y0143 | 24422321 | Y0156 | 42432344 | Y0169 | 13123244 | Y0182 | 43443233 |
| Y0004 | 23424333 | Y0074 | 12124431 | Y0144 | 23433432 | Y0157 | 44332424 | Y0170 | 11231212 | Y0183 | 21213234 |
| Y0005 | 23423244 | Y0075 | 23431232 | Y0145 | 33344421 | Y0158 | 13331113 | Y0171 | 43212242 | Y0184 | 24423234 |
| Y0006 | 32433342 | Y0076 | 12232233 | Y0146 | 34432334 | Y0159 | 42433433 | Y0172 | 13443432 | Y0185 | 43223422 |
| Y0007 | 21243111 | Y0077 | 33211321 | Y0147 | 42122432 | Y0160 | 22132121 | Y0173 | 31332231 | Y0186 | 23443442 |
| Y0008 | 42223432 | Y0078 | 43231122 | Y0148 | 31342423 | Y0161 | 11343222 | Y0174 | 24331223 | Y0187 | 33213213 |
| Y0009 | 23343212 | Y0079 | 24231123 | Y0149 | 34222443 | Y0162 | 13344421 | Y0175 | 32211232 | Y0188 | 43133134 |
| Y0010 | 33422444 | Y0080 | 21112344 | Y0150 | 13312444 | Y0163 | 34233342 | Y0176 | 42342122 | Y0189 | 33422312 |
| Y0011 | 31133221 | Y0081 | 43112133 | Y0151 | 34422243 | Y0164 | 34224342 | Y0177 | 34431122 | Y0190 | 33424332 |
| Y0012 | 33242233 | Y0082 | 31221243 | Y0152 | 21112423 | Y0165 | 33243122 | Y0178 | 13244233 | Y0191 | 23213344 |
| Y0013 | 43312212 | Y0083 | 32433234 | Y0153 | 32422311 | Y0166 | 22243432 | Y0179 | 33122432 | Y0192 | 23233234 |
| Y0014 | 21244243 | Y0084 | 31331344 | | | | | | | | |
| Y0015 | 33224233 | Y0085 | 22343442 | | | | | | | | |
| Y0016 | 33131221 | Y0086 | 13343123 | | | | | | | | |
| Y0017 | 11132424 | Y0087 | 31322342 | | | | | | | | |
| Y0018 | 13334224 | Y0088 | 44233431 | | | | | | | | |
| Y0019 | 32432431 | Y0089 | 21112223 | | | | | | | | |
| Y0020 | 11333342 | Y0090 | 24243344 | | | | | | | | |
| Y0021 | 22244233 | Y0091 | 24334244 | | | | | | | | |
| Y0022 | 31131344 | Y0092 | 31212243 | | | | | | | | |
| Y0023 | 21334223 | Y0093 | 11133124 | | | | | | | | |
| Y0024 | 43431124 | Y0094 | 11133213 | | | | | | | | |
| Y0025 | 42443421 | Y0095 | 31124234 | | | | | | | | |
| Y0026 | 12433212 | Y0096 | 43422111 | | | | | | | | |
| Y0027 | 43331244 | Y0097 | 23311334 | | | | | | | | |
| Y0028 | 43222342 | Y0098 | 42213134 | | | | | | | | |
| Y0029 | 33443243 | Y0099 | 32212112 | | | | | | | | |
| Y0030 | 13323224 | Y0100 | 42233321 | | | | | | | | |
| Y0031 | 31134442 | Y0101 | 44422213 | | | | | | | | |
| Y0032 | 13324313 | Y0102 | 24221324 | | | | | | | | |
| Y0033 | 24223313 | Y0103 | 32131132 | | | | | | | | |
| Y0034 | 23233421 | Y0104 | 43223323 | | | | | | | | |
| Y0035 | 12133311 | Y0105 | 42333342 | | | | | | | | |
| Y0036 | 33432234 | Y0106 | 12221132 | | | | | | | | |
| Y0037 | 21332113 | Y0107 | 43123423 | | | | | | | | |
| Y0038 | 13423124 | Y0108 | 43112432 | | | | | | | | |
| Y0039 | 11233433 | Y0109 | 22331223 | | | | | | | | |
| Y0040 | 32231122 | Y0110 | 43332113 | | | | | | | | |
| Y0041 | 32122112 | Y0111 | 24231321 | | | | | | | | |
| Y0042 | 32211243 | Y0112 | 12433432 | | | | | | | | |
| Y0043 | 32423424 | Y0113 | 24422121 | | | | | | | | |
| Y0044 | 32344321 | Y0114 | 12224333 | | | | | | | | |
| Y0045 | 31123442 | Y0115 | 13442112 | | | | | | | | |
| Y0046 | 21234231 | Y0116 | 22344232 | | | | | | | | |
| Y0047 | 43212211 | Y0117 | 13344223 | | | | | | | | |
| Y0048 | 33242112 | Y0118 | 12343313 | | | | | | | | |
| Y0049 | 22434434 | Y0119 | 13132242 | | | | | | | | |
| Y0050 | 32432442 | Y0120 | 31132231 | | | | | | | | |
| Y0051 | 23344343 | Y0121 | 33232111 | | | | | | | | |
| Y0052 | 11223223 | Y0122 | 44323224 | | | | | | | | |
| Y0053 | 13442231 | Y0123 | 31132121 | | | | | | | | |
| Y0054 | 31322221 | Y0124 | 13443221 | | | | | | | | |
| Y0055 | 23433212 | Y0125 | 34344242 | | | | | | | | |
| Y0056 | 32242311 | Y0126 | 42223344 | | | | | | | | |
| Y0057 | 13224431 | Y0127 | 34424234 | | | | | | | | |
| Y0058 | 11234243 | Y0128 | 21224342 | | | | | | | | |
| Y0059 | 11332424 | Y0129 | 23221123 | | | | | | | | |
| Y0060 | 43324433 | Y0130 | 22442132 | | | | | | | | |
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| Y0878 | 33122342 | Y0948 | 13234432 | | | | | | | | |



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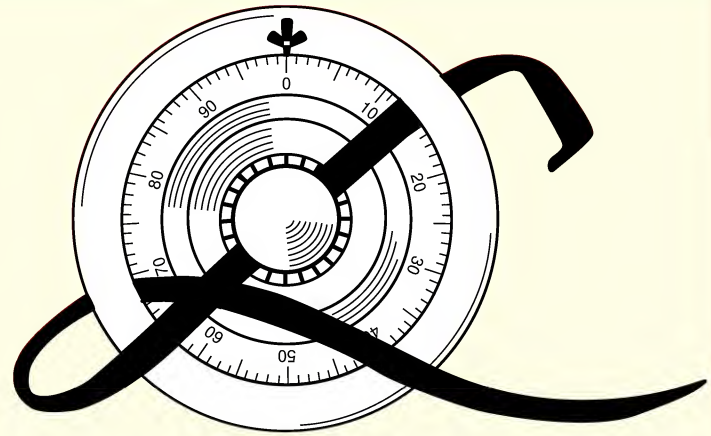
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| Y3034 | 43333211 | Y3104 | 23421121 | | | | | | | | |



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| Y3232 | 13242211 | Y3304 | 22322331 | Y3376 | 12234424 | Y3448 | 12233113 | Y3520 | 31321211 | Y3592 | 24432221 |



Nissan Y0001-8000, Part 1

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|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|
| Y3593 | 34311231 | Y3665 | 32321344 | Y3737 | 13223113 | Y3751 | 32442331 | Y3765 | 12221332 | Y3779 | 22431332 |
| Y3594 | 42313223 | Y3666 | 13322342 | Y3738 | 33121332 | Y3752 | 31131342 | Y3766 | 11324434 | Y3780 | 43222331 |
| Y3595 | 12132122 | Y3667 | 33233112 | Y3739 | 42322342 | Y3753 | 31223432 | Y3767 | 12243433 | Y3781 | 32213344 |
| Y3596 | 22244211 | Y3668 | 23311134 | Y3740 | 13221234 | Y3754 | 13113324 | Y3768 | 24223311 | Y3782 | 34221123 |
| Y3597 | 13421344 | Y3669 | 13332431 | Y3741 | 34231311 | Y3755 | 42231231 | Y3769 | 12424331 | Y3783 | 32311321 |
| Y3598 | 44422121 | Y3670 | 43231223 | Y3742 | 42433422 | Y3756 | 12132211 | Y3770 | 33442134 | Y3784 | 13223313 |
| Y3599 | 23342422 | Y3671 | 34342321 | Y3743 | 23213322 | Y3757 | 23124433 | Y3771 | 23221321 | Y3785 | 42111331 |
| Y3600 | 13242242 | Y3672 | 13423331 | Y3744 | 31123121 | Y3758 | 33232432 | Y3772 | 42234432 | Y3786 | 42134224 |
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| Y3633 | 42133322 | Y3705 | 23422111 | | | | | | | | |
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| Y3658 | 23233243 | Y3730 | 42431244 | | | | | | | | |
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| Y3661 | 32231311 | Y3733 | 22312444 | | | | | | | | |
| Y3662 | 23112313 | Y3734 | 11322243 | | | | | | | | |
| Y3663 | 12113242 | Y3735 | 11323421 | | | | | | | | |
| Y3664 | 42124333 | Y3736 | 43123331 | | | | | | | | |



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Nissan

Y0001-8000, Part 1

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| Y3861 | 11231332 | Y3931 | 11234322 | | |
| Y3862 | 33311221 | Y3932 | 33342421 | | |

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The National Locksmith's

August 1998 Planning Calendar

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|---|---|---|---|---|---|
| | | | | | Mas-Hamilton Training Course Auditcon System 2100 Phoenix, AZ & Portland, OR (606) 253-4744 Ext. 180 Bill Reed Seminar Kansas City (904) 476-2799 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | Mas-Hamilton Training Course Auditcon System 2100 Chicago, IL & Pittsburgh, PA Vindicator 40 & Vindicator II New York, NY (606) 253-4744 Ext. 180 8 | 9 |
| MBA Training DoD/DoE Combination Locks Nicholasville, KY (606) 887-0496 10 | MBA Training DoD/DoE Combination Locks Nicholasville, KY 11 | MBA Training DoD/DoE Combination Locks Nicholasville, KY 12 | MBA Training DoD/DoE Combination Locks Nicholasville, KY 13 | MBA Training DoD/DoE Combination Locks Nicholasville, KY 14 | Mas-Hamilton Training Course Auditcon System 2100 Salt Lake City, UT & Vancouver, CAN X-07 Certification Cheyenne, WY (606) 253-4744 Ext. 180 15 | Mas-Hamilton Training Course X-07 Troubleshooting Cheyenne, WY MBA Training Manipulation Nicholasville, KY Also on August 15 (606) 887-0496 16 |
| Mas-Hamilton Training Course Vindicator 40 & Vindicator II Lexington, KY (606) 253-4744 Ext. 180 Lockmasters Course Advanced Picking Nicholasville, KY 1-800-654-0637 17 | Lockmasters Course Advanced Picking Nicholasville, KY 18 | S.E.R.L.A.C. Trade Show & Classes Orlando, FL 1-800-845-5294 Lockmasters Course Advanced Impressioning Nicholasville, KY 19 | S.E.R.L.A.C. Trade Show & Classes Orlando, FL Lockmasters Course Advanced Impressioning Nicholasville, KY 20 | S.E.R.L.A.C. Trade Show & Classes Orlando, FL Lockmasters Course Automotive Opening Nicholasville, KY 21 | S.E.R.L.A.C. Trade Show & Classes, Orlando, FL Mas-Hamilton Training Course Auditcon System 2100 Jacksonville, FL & New York, NY (606) 253-4744 22 | S.E.R.L.A.C. Trade Show & Classes Orlando, FL Lockmasters Course Automotive Opening Also on August 22 Nicholasville, KY 23 |
| 24 | 25 | 26 | 27 | Mas-Hamilton Training Course Auditcon System 2100 Augusta, GA (606) 253-4744 Ext. 180 28 | Mas-Hamilton Training Course Auditcon System 2100 Houston, TX & Los Angeles, CA X-07 Certification Washington, DC 29 | Mas-Hamilton Training Course X-07 Troubleshooting Washington, DC 30 |
| 31 | | | | | | |

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Quick Entry

UPDATE

by
Steve
Young



1998 Volvo C-70

The Volvo C-70 was introduced early in the 1998 model year as a limited production vehicle. (See photograph 1.) This is the first true sports car that Volvo has built in many years. You may remember seeing the commercials hyping the C-70 in conjunction with the movie "The Saint." Production has been increasing all year long, and now they are becoming a common sight in many cities.

A convertible/ hardtop version of the C-70 will be introduced this fall. Like the Mercedes SLK, the Volvo C-70 convertible top will retract into the trunk.

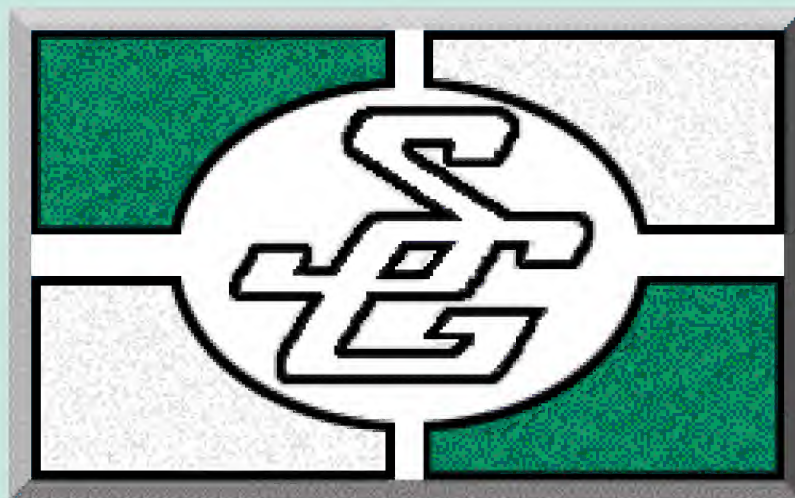


1. The 1998 Volvo C-70.

From the advance information that I have, the doors of the convertible and the hardtop will be identical. The opening method below should work on both vehicles.

The C-70 is equipped with a deadlock mechanism that engages only when the door has

been locked with the key. At this time, I do not know of any way to bypass the deadlock mechanism. If the car is deadlocked, I recommend that you contact your local Volvo dealer. With the Vehicle Identification Number (VIN), the dealer can order a replacement key within a day or so. If the keys have simply



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been locked inside of the car, the deadlock will not have been activated and the car can be opened by the following method.

When the door is locked, the top of the inside lock button will be flush with the door panel. The TT-1017 tool (see *illustration A*) can be used to grasp and lift the vertical linkage rod from below the inside lock button. Begin by wedging open the door just forward of the inside lock button. (See *photograph 2*.) Carefully insert the tip of the tool so that you can grasp the linkage rod from the outboard side of the door. (See *photograph 3*.) Once the shaft of the tool is in contact with the weather-stripping, rotate the tool to bring the hooked end of the tool below the glass.

The inside lock control linkage is located inside a cavity that protrudes toward the inside of the car further than on most vehicles. Because of the placement of the linkage, you will actually be grasping the linkage rod from the rear. Position the end of the tool below and slightly to the rear of the inside lock button. Fish for the linkage rod while watching the top of the lock button for movement. Once you have a grip on the rod, pull the tool toward the outside of the door and upward at the same time in



2. Wedge the door just forward of the inside lock button.

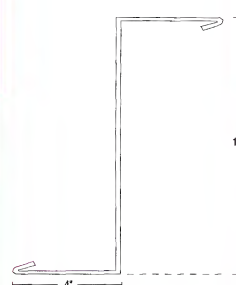


3. Insert the tip of the tool and grasp the linkage rod.



4. Once you have a grip on the rod, pull the tool toward the outside of the door.

TT-1017 Tool



Quick Reference Guide

Vehicle:

1998 Volvo C-70

Direction Of Turn:

Counter Clockwise (Drivers side only, the passenger side door is not equipped with a lock cylinder)

Tool: TT-1017

Lock System:

Four-Track High Security

Key Blank:

Ilco S66NN-P, Silca NE66P

order to lift the linkage rod. (See *photograph 4*.) If the tool slips, reposition the tip of the tool slightly lower and try

again. If the linkage seems to be rigid and will not pull up, the vehicle may be in the deadlocked mode. **END**



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TEST DRIVE!

When it comes to safe servicing and opening, for many, the least favorite to work on is floor safes. Those who have done this for any length of time know that it's no fun kneeling on a greasy dirty floor, hunched under a cabinet in the corner of some fast food restaurant opening a floor safe. No fun at all. Especially in a situation where you can barely get a drill into the area in which you need to work. Floor safes always seem to be placed in the most inaccessible places.

There are several manufacturers that make floor safes such as Diebold; Gary; Johnson-Pacific; Meilink; Mosler; Sentry; and many others. The one manufacturer that produced probably more round door floor safes than any other is American Security Products (AM SEC). AM SEC is long known for their round door Major and Star brand floor safes. They are also the most popular with the fast food establishment and car wash businesses, and the one you will most likely encounter when called to such a location.

Due to the fact that many of these safes will be found at restaurants and car washes, they are not only prone to the elements, but subject to attacks. Seldom do the attacks result in much more than a sledge hammer scarred safe head. This occurrence will usually prompt a phone call to you for help.

PRODUCT: Mark Bates Associates (MBA) is distributing a template called the "Star Bustar" that is designed to eliminate the guess work when it comes to drop-in drill points, relocker drill points, locking bolt drill points or the relief of a smashed spindle on Star floor safes. These are all the things you need to know to overcome any situation, be it a lockout or a vicious attack.

Star Bustar

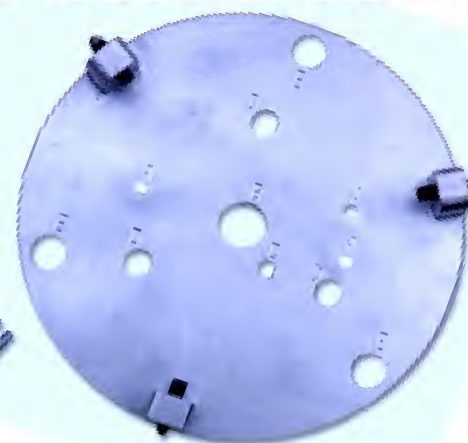
The Star Bustar template is 7-3/8" in diameter and 3/8" thick. It comes supplied with a hole saw and two screws used to fasten the Safe Bustar to the safe head. The template is pre-drilled for the spindle, drop-in, relocker and locking bolt locations. It is well constructed and easy to use.

APPLICATION: To use the Star Bustar, first mark the opening index on the door and then remove the dial ring on the Star safe. The "A" holes stamped on the template are for mounting the Star Bustar in place of the dial ring. With the opening index at the top, attach the Star Bustar with screws supplied. At this point it is a matter of which opening procedure you need to implement that determines which template reference is used.

If the spindle was smashed to where it remained in the depressed position, the "B" hole is used to cut the spindle and re-cut the door freeing the spindle allowing you to use the spindle for wheel rotation. To accomplish this task, use the hole saw that is supplied with the Star Bustar. You will need to supply your own arbor.

The "C" hole is used for drilling at the fence drop-in position. This position would be used in a lost combination scenario. A 1/4" drill size is recommended for this procedure which will place the hole in a perfect position to align the wheel gates under the fence.

The "D" holes are the relocker positions. There are three relockers on this safe head, one on each bolt. The relockers can only be activated if the back cover on the door falls off or the cover screws come loose. Should that occur, each relocker needs to be drilled



until the bolts can be retracted. A 3/8" drill bit is recommended for this procedure.

The "E" holes are for drilling the door locking bolts. You may encounter a situation in which the safe head is so badly damaged that the only way in which to open it is by drilling the door locking bolts. Before doing so however, it is necessary to tighten the door stop screws against the safe body or tube. If you look closely at the Star Bustar, you will notice three tabs with tapered screws. Those are the door stop screws.

The main purpose of the stop screws is to prevent the door from revolving when drilling the locking bolts. This is a great feature. When drilling for the bolts, a 1/2" drill bit is recommended.

CONCLUSION: The Star Bustar is simple and straight forward to use, and will make a great addition to your tool kit. It is well constructed and drill point locations are accurate. The only negative comment I can make about the Star Bustar is that it is a bit on the expensive side. List price is \$145.00.

For more information on the Star Bustar call Mark Bates Associates at: (606) 887-0496. **ML**

IN SUMMARY:

DESCRIPTION: Drill template for the Star lift-out round door safes.

PRICE: \$145.00

COMMENTS: Designed to eliminate the guess work when it comes to drop-in drill points, relocker drill points, locking bolt drill points or the relief of a smashed spindle on Star floor safes.

TEST DRIVE RESULTS: It is well constructed and drill point locations are accurate. The only negative comment is that it is a bit on the expensive side.